The Role of Competitive Intelligence in Formulating Marketing Strategy

A thesis submitted in fulfillment of the requirements of De Montfort University for the Degree of Doctor of Philosophy

by

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AUTHOR'S DECLARATION

During the period I have been registered as a candidate for the degree for which this submission is made. I have not been a registered candidate for another award of any other university.

This Thesis has been prepared with full compliance to the De Montfort University regulations for the award of Doctor of Philosophy degree.

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ABSTRACT

The area of Competitive Intelligence has received little research. Despite an increasing number of business managers interested in competitive intelligence area in recent years, there has been very little empirical investigation especially concerning integrating competitive intelligence into marketing strategy formulation. Through extensive research and review of the literature on the subject, the analysis shows that Competitive Intelligence has not been clearly linked to marketing strategy formulation. This thesis is aimed at partly filling this limitation by providing an extensive analysis of key issues in the context of working relationship between competitive intelligence and marketing strategy formulation crucially it asks whether competitive intelligence is a key component of marketing strategy formulation; and if there is a difference between UK and Other European managers with regard to the way they use competitive intelligence.

The thesis examines the theoretical framework of marketing strategy. An analysis of the literature on the subject marketing strategy is reviewed extensively, drawing from the perspectives of both academicians and management practitioners. It reviews the literature on the subject competitive intelligence, critically examining both the printed and electronic material and highlighting the misunderstandings inherent in many organisations as regards the use of competitive intelligence. The development of competitive intelligence is investigated, making comparisons between its application in UK and the rest of Europe.

Questionnaires and semi-structured interviews were used as methods for data-collection. A multiple regression analysis identified different significant variables of competitive intelligence and marketing strategy formulation process in practice. Analysis by t-test revealed difference and similarity between UK and Other European managers with regard to the way they use competitive intelligence. Theoretical and practical implications were drawn from the findings for theory advancement and giving practical pointers for practitioners. The findings have provided important contributions to the body of knowledge in the arena of competitive intelligence and how it might be integrated to marketing strategy formulation.

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Chapter One: Introduction

This research project examines the work relationship between Competitive Intelligence (CI) and Marketing Strategy Formulation (MSF) in the UK and Other European companies. The key issues under study are:

a) The current status of competitive intelligence in European companies;
b) The way competitive intelligence managers use competitive intelligence;
c) The relationships between competitive intelligence and marketing strategy formulation;
d) Whether competitive intelligence is a key component of marketing strategy formulation.

The project is empirically based and is characterised by two features: a) an exploratory approach, i.e., the key issues were examined by the work relationships between competitive intelligence and marketing strategy formulation; and b) comparative approach, i.e., the key issues were examined by comparing attitude responses between the UK and Other European managers.

This chapter presents a brief overview of the research project, the main objectives of the thesis, and the organisation of the thesis.

1. 1 The research project

The process of marketing is centuries old, but the 20th Century has seen the most rapid progress in both the concept and practice of marketing. Similarly, intelligence as a process of obtaining information, which is important although not readily accessible, is almost as old as humanity itself. Only in the recent past has intelligence been used in marketing.

Competitive intelligence is a relatively new area in management literature. The literature highlights the misunderstandings inherent in many organisations as regards the use of competitive intelligence. The literature also describes how competitive intelligence has developed, and raises issues in application, resource commitment and the infrastructure necessary for competitive intelligence to be successfully applied in business. Its also shows, that competitive intelligence has not been clearly linked to marketing strategy formulation.

The complexity and difficulties experienced by the competitive intelligence managers in integrating and managing the relationship between competitive intelligence and other functions in the organisation have inspired research efforts in a wide range of disciplines all around the world. A noticeable characteristic of the small volume of research literature on competitive intelligence is that most of the researchers took a wide perspective, i.e., focusing on various general competitive intelligence and managerial issues. Given the importance of such a perspective in research, the problems and issues in integrating competitive intelligence and managing the relationship with marketing strategy formulation at a deeper, "functional" level: marketing strategy.

However, the area of competitive intelligence and working relationships with marketing strategy formulation has received limited in-depth research. Even more rarely seen are investigations competitive intelligence and marketing strategy formulation in Europe. This project was an attempt to partly fill this gap.

The project seeks to provide insights into the area of competitive intelligence and its working relationship within the marketing strategy formulation process. The particular issues chosen are 1) whether a relationship between competitive intelligence and marketing strategy formulation exists; 2) how competitive intelligence contributes to marketing strategy formulation; 3) the current state of competitive intelligence in Europe; and 4) Is there is difference between UK competitive intelligence managers and other European competitive intelligence managers with regard to the way they practice competitive intelligence? Such focuses have been decided based on reviewing the literature on competitive intelligence, the author's early research on competitive intelligence (Badr, 1998), and pilot interviews with a

number of UK managers who practice competitive intelligence. The examination of the four issues were based on hypothesis testing with data from sample surveys, and by exploratory and descriptive approaches based on pilot interviews.

The findings from the hypothesis testing and qualitative analyses were extended into discussion in terms of theoretical implications for advancing the study of the relationship between competitive intelligence and marketing strategy formulation, and the managerial implications for improving the working relationships between the competitive intelligence and marketing strategy managers in European companies.

1.2 The research objectives

As there is no published empirical evidence to suggest that there is a relationship between competitive intelligence and marketing strategy formulation, it is the purpose of this thesis to prove whether such a relationship exists or not. This project was an attempt to partly fill this gap.

By comparison of general attitudes and perceptions it was intended to discover how UK and Other European competitive intelligence managers perceive the most important issues in integrating competitive intelligence into marketing strategy formulation. Such information can be extremely valuable for developing and integrating competitive intelligence into marketing strategy in European companies. It also provides valuable information for both UK and other European competitive intelligence practitioners regarding the current state of competitive intelligence since this research is the first of its kind.

The main aims of this research were to explore these areas. Therefore, the research objectives can be summarised as follow:

1. To review and evaluate the theoretical and empirical work related to 'competitive intelligence' and 'marketing strategy formulation'.

2. To establish the current status of competitive intelligence in European companies.

3. To examine the view of European senior managers towards competitive intelligence.

4. To investigate how competitive intelligence contributes to marketing strategy formulation.

5. To establish if managers, consider competitive intelligence to be a key component of marketing strategy formulation.

6. To identify the difference between UK and Other European managers in the way they practise competitive intelligence.

7. To explore the implications of the above findings for improving the way managers use competitive intelligence, also how managers can integrate competitive intelligence into marketing strategy formulation process.

1.3 Organisation of the thesis

The thesis is organised into seven chapters, the first which is the Introduction. Chapter two is concerned with the theoretical foundations for marketing strategy. It presents reviews of the literature on marketing strategy; it begins with exploring the different perspectives in defining marketing strategy. This is followed by an explanation of marketing strategy formulation. Finally, the chapter outlines that marketing strategy formulation consists of four major stages, setting marketing objectives; strategic analysis; strategic decision-making and implementation & control. Each of the four stages is described with reference made to the relevant literature available.

Chapter three evaluates the literature available on competitive intelligence. This review starts with the historical development of competitive intelligence. The chapter then investigates why companies need competitive intelligence, and the current environment of competitive

intelligence. This is followed by explanation of the several subjects associated with competitive intelligence; and it ends by discussing the reality of competitive intelligence.

Chapter four discusses the myths and misconceptions of competitive intelligence followed by a brief discussion of competitive intelligence in several countries. It describes the competitive intelligence cycle and highlights the benefits of competitive intelligence activities. It also discusses research that addressed the benefits of competitive intelligence to the business. It also discusses the role of competitive intelligence systems and alternative structures and financial and personal support for competitive intelligence. The chapter also attempts to examine the factors that foster competitive intelligence. This is followed by explanation of why it important to measure the effectiveness of competitive intelligence activities and attempt to review and evaluate competitive intelligence related research. The chapter also presents and reviews the literature on competitive intelligence and marketing strategy formulation. This section begins with exploring the most significant changes that have made competitive intelligence a priority in formulating strategy. It also discusses the value of competitive analysis as the lifeblood of competitive strategy. This is followed by discussion regarding strategy and planning, and examination of competitive intelligence and competitive strategy.

Chapter five describes the theoretical foundations and practical issues with regard to the methodology employed in this research. The chapter discusses the relevant theories and practices that provide the basis for ascertaining and rationalising the methodology. It includes the formulation of the research problems and objectives, the development of the research hypotheses, and the design of data collection methods. Also the chapter discusses validity and reliability issues.

Chapter six provides a statistical overview, and then presents the data analysis and findings in detail. The research hypotheses were tested based on the survey data. It demonstrates the analysis and findings of the field research with the statistical techniques used in this analysis. The chapter also contains a section on qualitative analysis and an analysis based on the data from the pilot interviews with the UK competitive intelligence managers.

Chapter seven gives a full summary and main conclusions of the research project, highlighting the value of the research findings in terms of their contribution to the theory of competitive intelligence and the marketing strategy formulation process and also the limitations of this study. The chapter offers recommendations for UK and Other European competitive intelligence managers and suggestions for further research are proposed.

Chapter Two: Marketing Strategy

2.1 Introduction

This chapter sets out to define marketing strategy in detail. The literature review contains several definitions of marketing strategy as put forward by some writers on the subject. Four main approaches are identified and discussed in detail. The chapter will also discuss the main components of marketing strategy. It goes without saying that a good marketing strategy is not arrived at by mere accident or conjecture. If an organisation is to develop a logical strategy, the organisation must be ready to invest considerable time, effort, expertise and other physical resources. The quality and effectiveness of the resulting strategy depends on this input. The development of a marketing strategy is, therefore, a critical make or break point in any organisation. Thus, tables, examples and diagrams are used in an attempt to clarify and enable a better understanding of the salient issues.

2.2 Strategy and Marketing

The corporate business and functional strategy hierarchy has been established as a useful framework within which to initiate discussion of strategic issues within companies. Indeed, recent educational literature maintains the argument that "…a typical multibusiness company has three main levels of management: the corporate level, the business level and the functional level" (Hill and Jones, 1998). The reason underlying the popularity of this scheme is its ability to simplify, reduce and combine complex strategy phenomena into a simple and workable form for analysis and understanding (Morgan, McGuinness and Thorpe 2002). The focus of this study was on the functional level: Marketing Strategy.

The discourse between marketing and business strategy has a documented history tracing back to the early 1970s when it was established that links existed at theoretical, conceptual and methodological levels (Anderson, 1982; Biggadike, 1981, Day and Wind, 1980). Later

research has also revealed the productive interaction between planning for organisational strategy and planning for marketing strategy with several accounts indicating the synergies to be gained from integrating planning between hierarchical levels within the firm (Cravens, 1986; Day and Wensley, 1983; Gluck, Kaufman and Walleck, 1980; Raymond and Barksdale, 1989; Shiner, 1989; Wiersema, 1983).

At the danger of simplifying the general understanding, strategy formulation can be considered as awareness process through which a future plan is created and then acted upon (Hart and Banbury, 1994; McGinness and Morgan, 2000; Schwenk, 1995; Slevin and Covin, 1997), which is not to suggest that it is independent of strategy implementation (Cespedes and Piercy, 1996; Mintzberg, 1990). Morgan, McGuinness and Thorpe (2002) argued that, 'strategy formulation refers to setting of goals, and the analysis that underlie the generation, evaluation and selection of strategies necessary to achieve these organisational goals'. Therefore, strategy formulation is concerned with both the, "…allocation of resources and the development of organisational processes necessary to achieve the long terms goals of the organisation" (Vorhies, 1998).

The discipline and practice of marketing has been undergoing a period of change over the last four decades (Varadarajan, 1999). For instance, as Morgan (1996) has indicated that during the 1960s the marketing concept was announced as the rescuer of companies. The 1970s witnessed a challenge to this because marketing was indifferent to greater communal issues. During the 1980s marketing caused discontent by over-segmenting markets and overstating the value of consumers' expressed needs, while McKenna (1991) posited that marketing could be considered as "everything" in the 1990s. Therefore, the role of marketing has changed and become one of the key functional units. According to Morgan *et al.* (2002), "there are many reasons that are considered to account for this: 1) relationships with customers are changing in form based on combined partnership through unified means (Ganesan, 1994); 2) relationships with channel mediators are proliferating through different and innovative methods of distribution, and channel parties are mobilising greater influence and exercising more power in the value stream (Johnson, 1999); 3) relationship with competitors have changed from direct, open offensive behaviour to selective collaboration and competition (Morgan and Hunts,

1994)". Based upon the preceding argument and the underling conceptual arguments exemplified in a statement provided by Varadarajan and Jayachandran (1999): The marketing function in organisations, besides being responsible for the content, process and implementation of the marketing strategy, at the product-market level, plays an important role in the strategy formulation process and the determination of the strategy content at the business and corporate levels.

However, it is the marketing strategy formulation that is the central interest of this study and the basis upon which the remaining conceptualisation is framed. Therefore, it is important to review the literature available on marketing strategy formulation.

2.3 Marketing strategy

'Plans are nothing. Planning is everything....

-Dwight D. Eisenhower

In his explanation on the rise and fall of strategic planning, Mintzberg (1994) concludes that the "missing detail" in the huge strategy literature is an understanding of how strategies are made. He contested that, for all the tools, techniques, and schools of thought, managers and academics lack a framework outlining a set of activities and processes needed to develop and implement plans. Similarly, a number of marketing scholars have called for more research on the prominent issues regarding marketing strategy (Bonoma 1985; Hutt, Reingen, and Ronchetto 1988; Kohli and Jaworski 1990; Menon, Bharadwaj, and Howell 1996; Ruekert and Walker 1987). Modern articles in some of the popular business press also have expressed the opinion that there is a lack of understanding of how effective strategies are made (Business Week 1996; Fortune 1996). The study reported in this part is an initial effort toward improving the understanding of how effective marketing strategies are made.

A review of the literature suggests two possible reasons for this apparent limited understanding of how such strategies are made. Firstly, because scholars usually have differentiated marketing strategy formulation issues from marketing strategy implementation issues (Moorman and Miner 1998), research has progressed along these two-split areas. In addition, academic research also has progressed along a divided route namely rational versus incremental planning. Menon, Bharadwaj, Adidam and Edison (1999), argued that, the literature on planning in business and marketing strategy is broadly made up of two schools of thought: rational and incremental. The rational planning school's highlight the formulation issues in strategy, whereas the incremental school highlights implementation issues (Barney 1997; Grant 1995; Nutt 1993). Moreover, the rational school is founded on the main principle that a particular group or top management intentionally formulates strategy plans, whereas the incremental school argues that strategy plans emerge within the company. Therefore, researchers in the rational tradition do not include organisational and individual dynamics in their concept. On the other hand, researchers in the incremental tradition tend to undermine analysis (Barney 1997; Hart and Banbury 1994; Mintzberg and Quinn 1996). Furthermore, researchers have further fragmented the field by narrowing their focus to single scope within these areas. For example, in marketing, researchers have conducted depth analysis of aspects such as integration (Ruekert and Walker 1987), interaction (e.g., Andrews and Smith 1996), and plan consistency and completeness (John and Martin 1984). Because of this false opposition between these two schools of thought, we lack increasing knowledge and conceptual frameworks for investigating the process of marketing strategy (Bonoma 1985; Hart 1992; Hutt, Reingen, and Ronchetto 1988).

Given these tendencies, it is not surprising to find that the strategy research on formulation and implementation developed as separate concepts. Research on formulation traditionally has emphasised assessment of firms' strengths, weaknesses, and external opportunities and threats (SWOT). The formulation stream of research believes that strategies are made through a great deal of consideration and a rational evaluation of alternative strategies that is guided by a vision for the company (Kerin, Mahajan, and Varadarajan 1990; Thompson, Strickland, and Fulmer 1987). Thus, vision has been characterised as an important component of the planning process because of its ability to provide constancy of purpose for the strategy planning process

(Dess and Miller 1993). Researchers belonging to the rational school also have proposed that synergy is an important component of the strategy process (Ansoff 1965; Day 1986; Kerin, Mahajan, and Varadarajan 1990). In contrast, implementation research has investigated issues related to achieving organisational buy-in for, commitment for, and involvement in the planning process. Because the implementation issue views the planning as a skill, it regards creativity as a key component of the planning process (Mintzberg 1994).

Menon, Bharadwaj, Adidam and Edison (1999); also argued that, the viewpoint that the rational/incremental and formulation/implementation divisions are problematic is gaining acceptance. For example, some contend, with regard to the rational/incremental modes of planning, that a strategy planning process that emphasises a single mode is likely to be less successful than one that emphasises both modes (Hart and Banbury 1994). There is also a growing acknowledgment that formulation and implementation join in time (Bonoma 1985; Hutt, Reingen, and Ronchetto 1988; Moorman and Miner 1998). In addition, empirical research finds that the separation of formulation and implementation harm company performance (Khatri 1996). Moreover, Grant (1995) argues that, independent of whether strategies develop rationally or incrementally, an analysis of strengths, weaknesses, opportunities, and threats (SWOTs), as well as an evaluation of alternative plans, should be components of any planning process.

Secondly, much of the research on strategy planning is based on either researcher conceptualisations of what it should be or what it is in practice (Mintzberg 1994). Although models of strategy planning that are developed only by researchers (without managerial input) are comprehensive and inclusive, they tend to be complicated and difficult for practical application. In contrast, though models of strategy planning developed only by managers (without theoretical underpinnings) are practical; they tend to be too specific to their organisations (Menon, Bharadwaj, Adidam and Edison 1999). Thus, it appears that there is a need not only for a conceptualisation of marketing strategy formulation (MSF) that integrates theory and practice, but also for its systematic empirical investigation and validation, which is beyond this research and recommended for future research. In summary, the current state of the received view in the literature is that the strategic planning process should include

components from both strategy formulation and implementation; therefore, this research takes into consideration this view'.

Before the discussion of the marketing strategy formulation and the implementation issue; it is worthwhile reviewing what is marketing strategy.

As it mentioned earlier, there has been considerable research and study into the area of marketing strategy. Most writers, in defining what marketing strategy is, begin with the widest perspective, highlighting its importance in organisations. Taking this approach, Baker (1979) defines marketing strategy as a broad means of achieving given aims. In the same vein, Kotler (1976) simply defines marketing strategy as the grand design to achieve objectives. Kotler introduces the idea of multiple steps in a process. Expanding on this, Luck and Ferrell (1979) define marketing strategy as being fundamental means or schemes. These definitions are all-embracing and do not restrict marketing strategy to the function in particular. A more specific definition is in the approach taken by Chang and Campo-Flores (1980), who refer to marketing strategy as being crucial to the marketing function.

Research indicates that there is no single perspective that businesses adopt in attempting to define marketing strategy. In a survey carried out by Greeenly (1995), respondents gave a variety of answers when asked what marketing strategy meant to them. These varied from those who understood it as a long-term activity, the basis for a broad course of action, to selling as much as possible in order to maximise profit.

These definitions are very broad and it is necessary to narrow them down if a working definition of marketing strategy is to be arrived at. The problem here is that the marketing function itself is multi-faceted and the extremely dynamic marketing environment today means that the discipline must evolve to keep abreast of the changes. This makes the task of defining marketing strategy even more difficult and most authors have resorted to detailing the constituent aspects of it. From this perspective, four broad perspectives can be identified: The marketing mix; the product life cycle (PLC); competition and market share; and positioning.

In addition, some writers also advocate special marketing strategy for both international and industrial market.

2.3.1 The marketing mix

McCarthy (1981), identified four elements: price, product, promotion and place. Later writers included people, process and physical evidence, which come into play when the organisation is dealing in services as opposed to products. Some authors have defined marketing strategy as an indication of how the different elements of the marketing mix are combined to achieve the marketing objective of the organisation (see for instance, Foxall, 1981, Chang and Campo-Flores, 1980). This is a very limited view of the marketing strategy. The reasons for this will be made clear as this thesis unfolds. Nevertheless, defining marketing strategy from the marketing mix perspective is useful in that it helps users to take into account all the components of their respective marketing mixes. Authors who take this view go on to develop product strategies, pricing strategies, promotion strategies and any other that may be relevant to a particular marketing mix. They consider these as components of the overall marketing strategy.

Writers like Udell (1968) and Foster (1970) adopt the same broad perspective, but sub-divide the strategies contained in the marketing mix. Udell makes a distinction between price and non-price strategies, with the latter embracing the rest of the elements of the marketing mix. Foster, on the other hand, places more emphasis on product strategies. His approach is to focus on the company's product mix to maximise on synergy and reduce product proliferation. The fact is that the various elements of the marketing mix are inextricably linked and attaching greater importance to one at the expense of the others could lead to marketing myopia.

2.3.2 The product life cycle (PLC) approach

The argument presented by the writers who take this perspective is that marketing strategies should change as a product moves through the product life cycle. This is because each stage of the life cycle has implications on demand and marketing, hence the requirements in terms of

the marketing mix will need to be altered to reflect the transition. Each element of the marketing mix will change in terms of relative importance depending on whether the product is in its early stages or tending towards maturity and decline. Writers who take this view include Kotler (1965), Doyle (1976) and Scheuing (1969). Scheuing in fact takes the argument further by prescribing a particular marketing strategy for each stage of the product life cycle and he refers to these as life cycle marketing strategies.

While the central argument here is logical, it is difficult to apply in practice. How does a company identify what stage a particular product is going through? Do declining sales necessarily imply declining markets? It becomes even more complex when the company serves different markets. The other problem is that the strategies developed for a particular stage may not be transferable along the product line or indeed across markets. Also, it is possible to reverse a trend that may interrupt the natural progression of the product in its life cycle. For instance, Viagra could have been in maturity in the market for drugs for some forms of heart disease, but with the discovery of its effects on potency, it can be considered to be in its growth stage.

2.3.3 The market share approach

Forwarded by writers such as Bloom and Kotler (1975), as well as Woo and Cooper (1981), this approach aims at finding a link between marketing share and competition, given the unique conditions in a particular market. The process is undertaken in stages. It is necessary when using this approach, to first calculate the optimum market share that the company can have for a particular product in a given market. The next stage is to formulate marketing strategies that will enable the organisation to achieve this market share. These strategies are then evaluated according to their likely impact, whether they will build, maintain or reduce the company's market share. Buzzel, Gale and Sultan (1975) also advocate this approach, the major difference with their method being that the options considered are building, holding and harvesting. Further sub-strategies are designed according to the various elements of the marketing mix in an exercise similar to the marketing mix approach. Woo and Cooper (1981)

focus on companies with low market share and strategies are developed according to the above-mentioned strategic options. Doyle (1975), on the other hand, gives greater emphasis on the concept of opportunity cost: pursuing market share as a strategy implies that all other strategies are overlooked in the realisation of this objective.

Linking marketing strategy with market share does not appear to be that distinct from the marketing mix approach. Market share can be seen as the end that various combinations of the marketing mix are the means of achieving. Taking this view, the various combinations are reduced to tactics and not strategies as such.

Kotler (1965) also introduces competitor activities into the matrix. Here a company has a range of nine broad strategic options that it can take in response to what its major competitors are doing. The basis of this approach is that each activity in the market will have an impact on the competitive arena. The relative strength of competitors is assessed according to their market share. Thus a company can have different options on how to respond to competitor activity and the appropriate response will depend on the market share that the company has relative to its major competitor. This is a complicated method that is difficult to apply in real market situations.

2.3.4 The Positioning approach

Writers on the subject of marketing strategy define positioning variously. For instance, Cravens (1975) defines it as the selection of a marketing strategy from a range of alternatives. On the other hand, Wind and Claycamp (1976) see the product's positioning as its overall situation in the market relative to its sales, market share and profitability. Kotler (1976) explains positioning in terms of both product and market conditions, while Holmes (1973) relate it to customers, using it to explain the profile of the customer and how they perceive the product. In the field of corporate strategy, Ansoff (1968) also perceives positioning in a way not very dissimilar to Cravens above. This is the major problem of this approach. Some of these authors (Kotler, 1976, for instance) advocate for the company to investigate the segmentation apparent in a particular market, and deciding which one to participate in. In the

markets selected, the company will also have to decide what products to sell there. This is how both the product and market are taken into consideration in the concept of positioning. Due to this diversity of views, it is perhaps best to leave this approach until further study has been carried out on positioning and a more concise and homogenous definition has been arrived at.

2.3.5 Marketing strategies in international markets

When reference is made to international marketing strategies, most authors are really talking about the variations in the marketing mix according to the different countries that a company operates in. In the field of corporate strategy, Porter (1980) developed a model for assessing the competitive advantage of nations, setting out the basic indicators in the prevailing market conditions. Halfill (1980) takes a similar approach although his terminology is slightly different. He adopts multinational marketing strategy in reference to international marketing strategy, but also uses the marketing mix elements, focusing mainly on advertising. Keegan (1969) adopts the elements of the product and communications and proceeds to use these as the basis upon which overseas markets can be analysed. Samli (1974) did a survey of American companies with a global presence. He also uses the marketing mix to analyse the potential of each market and the appropriate strategies to pursue, although his approach also includes competition.

2.3.6 Marketing strategy in industrial markets

The situation here is not very different from that in international marketing strategies. Two basic strands can be identified in this area of marketing: marketing mix, and positioning. Most writers again take the marketing mix as a basis for analysis and strategy formulation. For instance, Copulsky (1976) defines industrial marketing strategies in terms of the marketing mix, but lays more emphasis on the product and price. The same approach was adopted by Cunningham and Hammouda (1969) in their research among UK engineering companies. Among those that take the positioning aspect are Forbis and Mehta (1981) and Corey (1975), who advocate for segmentation within markets. However, the confusion surrounding positioning as a concept has already been outlined, hence it is reasonable to conclude that

industrial marketing strategy is developed principally by using the elements of the marketing mix.

Literature on the basic understanding of the concept of marketing strategy generally revolves around the marketing mix regardless of whether it is in domestic or international markets, industrial or consumer goods. Even writers who attempt to eschew this tendency by suggesting alternative approaches like the product life cycle and market share ultimately return to the marketing mix. The positioning approach is not sufficiently developed to elicit further analysis as more research is needed to crystallise the concept.

Formulating Marketing Strategy

The process of formulating marketing strategy is part of the four stages involved in strategic planning (see Figure 2.1). These are: Marketing Objective; Strategic Analysis; Strategic Decision Making and Implementation & Control. Each of these consists of various processes so that ultimately, the process of marketing strategic formulation can be very complex. This section will look at these from a broad perspective then proceed to explain what is involved in greater detail. The main focus will be on the marketing function in general, with marketing strategy as the core.

The issues of developing marketing objectives and implementing marketing strategy are closely related. Although the objectives come first, they must be done with a goal in mind and how this goal is achieved is related to marketing strategy. However, the course is left open at the initial stages and all the likely alternatives and possible outcomes must be thoroughly examined.

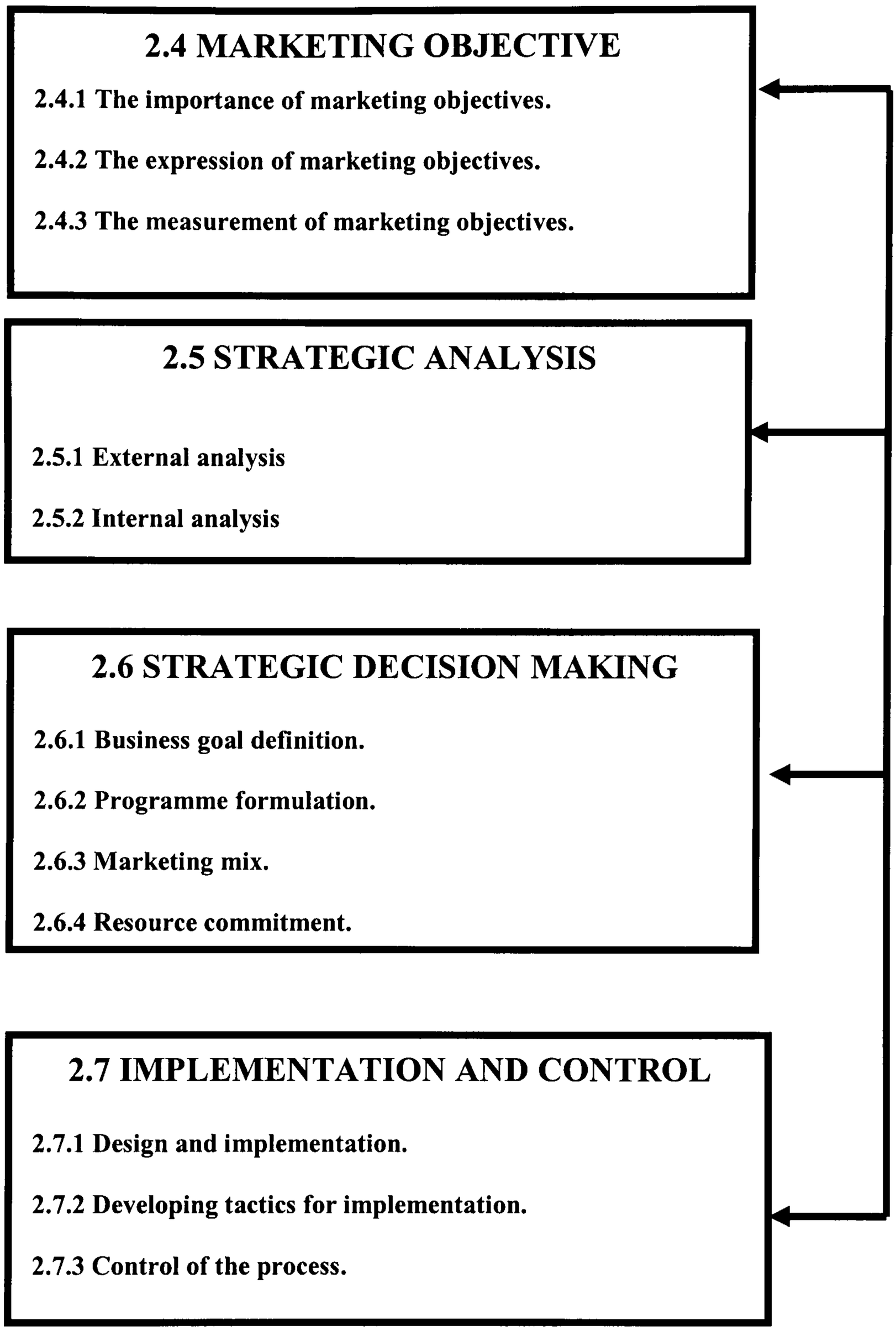


Figure 2.1: Developed by the writer to show the Marketing Strategy Formulation Process.

2.4 Marketing Objectives

Because implementing marketing strategy has financial implications, the overall goals and objectives have to be revisited time and again to ensure that they are achieved at an acceptable

cost. An optimum point has to be struck whereby the objectives and strategies are combined in such a way as to minimise the costs without jeopardising service quality while at the same time generating a profit. Sirgy and Lee (1996) pointed out that, traditionally, marketing managers have conceptualised marketing performance in terms of sales, profit, and/or market share goals in relation to a particular product: (product can mean goods, services or programmes) within a specific time frame (Aaker, 1984; Day 1984; Shetty, 1979). Here it should be noted that a marketing objective provides guidelines to the efforts of individuals and functions; an objective serves to motivate performance and implementation and provides a basis for evaluating and controlling activities (Day, 1981, 1984).

2.4.1 The importanace of marketing objectives

A great deal has been written about the importance of establishing marketing objectives but there is very little on what exactly it entails. Why is it important? What are objectives? Some authors have suggested that goals and objectives are one and the same, while others contend that the two are distinct. Drummond and Ensor (2002) argued that, objectives are specific intended outcomes of strategy. There are differing views on the definition of goals and objectives. Some writers see goals as being less specific than objectives. Strategic goals are general aspirations that the organisation needs to achieve but are difficult to measure or put within a specific timescale. Objectives therefore, are more specific than goals and state what is to be achieved. However, it is difficult in today's complex business environment to set hard and fast definitions and expect them to be applicable and stand the test of time. In addition, marketing as a discipline has increased in importance only recently and academics and authorities on the subject have to accelerate their research and study in order to keep up with the pace of new developments in the business arena. This situation has led to later writers either condemning the work of their predecessors or recycling the same ideas and labelling them as a new concept. The result of this has been misunderstanding and the lack of co-operation that it breeds among the academics makes the business world wonder if the academics really have anything substantial to offer.

Whether or not a concept or theory related to market is successful can only be proved if it is applied in business. If an organisation realises profit or whatever other objective they have, then the theory has a chance to stand the test of time. Otherwise, it is rejected as another failed strategy. It is well known however that the marketing environment is subject to rapid change. This calls for strategies to be modified and adapted to suit the specific market and organisational conditions prevailing at the time. The factors that impinge on a clear definition and, therefore, understanding of a marketing theory or concept are not limited only to the internal environment of the organisation, but also include aspects in the external macroeconomic environment. These are difficult to predict as well as being impossible to control and thus present a challenge to marketing professionals and academics alike. Nevertheless, the task of developing marketing objectives must address all these issues in a satisfactory, realistic manner (Glen *et* al., 1991).

2.4.2 Why is it important to develop a marketing objectives?

In answering this question, it must begin by thinking about what it is that the marketing objective does for the organisation as this gives a clear indication of its importance. In simple terms, an objective is like the light at the end of the tunnel; the prize that awaits the athlete. There are several general guidelines that management gurus have developed over the years to help organisations establish objectives that are likely to have positive impact on the organisation. One such guideline has been reduced to the acronym SMART (Drummond and Ensor, 2002; Wheelen and Hunger, 1998) and this is briefly explained below:

S*pecific*: The goals must not be general, but should be narrowed down to identifiable targets;
M*easurable*: What is not measured is very difficult to reward fairly. Objectives must as far as possible, be assessed in meaningful figures;
A*ttainable*: The targets must not be so ambitious as to be impossible to achieve with the organisation's existing resources;
R*ealistic*: Managers must resist the temptation of setting targets that are divorced from the conditions prevailing in the market;

T*ime*: The objectives must be bound by time be it short, medium or long-term and it must be obvious to all when this time elapses.

In addition, objectives must be agreed upon by all those concerned and challenging enough to demand the energies of those pursuing them.

As regards hierarchy, it is the duty of senior management to set the tone by developing and clearly articulating their mission statement, which must also follow the guidelines above. It is from this mission statement that marketing objectives will be developed. The question has often been raised about the direction of the effort and responsibility. Should the marketing strategies be formulated " top-down", that is developed by senior executives and handed down the hierarchy for implementation, or "bottom-up"? The best results are to be found in co-operation and working together. Thus senior managers must articulate the mission statement to their junior staff and then work together to develop individual marketing objectives that are congruent with the mission statement. Nevertheless, modern organisations are moving towards seamless structures where the distinction between senior and junior executives is blurred as far as their work is concerned. This environment appears to be more conducive to teamwork, working partnerships and co-operation (Drummond and Ensor, 2002; Jain, 2000; Glen *et* al., 1991).

There are various levels of marketing objectives depending on the size and nature of the organisation and the scope of operations. Each department or product line could have its own marketing objectives, but all these activities must fit into the overall marketing objectives of the organisation as a whole. This implies that the role of good, open channels of communication and proper co-ordination cannot be overstated. The underlying purpose of marketing objectives is to identify tangible action points that can be translated into product and market related strategies that will be profitable to the organisation (Glen *et* al., 1991).

2.4.3 How can marketing objectives be expressed?

As has been stated earlier, the end of the marketing objectives must be products, markets and profits. At the core of any organisation is the interaction with the external environment to achieve set objectives.

The exchange that defines organisations and is expressed in the marketplace consists in the organisation possessing some product, skill or service that is demanded by some individuals or organisations in the external environment. It is the double coincidence of need that facilitates the exchange common to all organisations (McKay, 1972; Glen *et* al., 1991).

This interface is even more crucial for business organisations, because of competition. Not only must they provide products or services in the conditions and at prices that are deemed to be fair by the customers, but also ensure that they deliver them better or faster than other companies in the same business. Therefore, the marketing objective as expressed in all the activities and services involved in conveying the products or services to the marketplace is a fundamental feature of the organisation's marketing objective. Unlike the mission statement which is singular and serves as the common thread running through the entire organisation, marketing objectives must of necessity be multiple if not composite. This is due to the diversity of products, services and markets that most organisations have to deal with which necessitates a unique strategy for each market segment and new niches that may be developed in the future (Sirgy and Lee, 1996). The most important element of these diverse markets, products and services is that the marketing objectives developed must be congruent and also interlinked to the other product lines but also link into the overall marketing objectives of the organisation (Glen *et at*., 1991).

Because each market is unique, a situation may arise whereby the organisation develops a series of possible objectives. When this occurs, it is necessary to prioritise the marketing objectives in such a way as to allocate the most resources to the objective deemed to have the most strategic importance. The problem here is determining which objectives are the most important. Because of this, the criteria must be in place to ensure that the selection is free from

bias and that the choices are made as objectively as possible. The criteria should also incorporate a means of measuring or scoring the various objectives available. This exercise is best undertaken in the initial stages of developing marketing strategies in order to forestall conflicts that are bound to erupt during the process (Glen *et at.*, 1991).

2.4.4 How can marketing objectives be measured?

Jain, (2000), argued that objectives to be effective, must present startling challenges to managers, jolting them away from traditional in-a-rut thinking. If properly designed, objectives permit the measurement of progress. Without some form of progress measurement, it may not be possible to know whether adequate resources are being applied or whether these resources are being managed effectively.

However, debate on how best to measure marketing objectives has been going on for a long time now and is nowhere near resolution. On the one hand there are those who argue that marketing objectives should be measured in market terms. These include volume of sales, market penetration, market share and customer satisfaction. The problem with these measures like customer satisfaction is that they are qualitative, but proponents argue that this is not insurmountable as composite figures can be assigned to represent set standards (Glen *et at.*, 1991). Customer satisfaction can then be measured by a scale and the values compared over time. These measures can be successfully used if a single action or tactic is at play. For instance, if market penetration is implemented without any other supporting strategies, then the number of outlets can be counted and compared over time. The task becomes more complicated if more than one tactic is employed. How does the marketing executive correctly assess the degree of market penetration if it was coupled with massive price reductions and other promotional activities?

On the other hand, there are those who contend that marketing objectives should be measured according to their individual contribution to the organisation's profit. This could be due to the fact that senior managers judge the success of any marketing activity in terms of how it has

impacted upon the profitability of that financial period. That managers take this view is partly the result of the unique position of the marketing functions in organisation. Marketing is the activity that generates the cash that is then circulated throughout the organisation. Measuring marketing objectives in profit terms has advantages, but it can also be deceptive as it is not possible to isolate individual marketing strategies or activities. Using profits as a measure therefore requires consolidation of marketing objectives and measuring the performance of the marketing function as a whole (Glen *et at*., 1991). This of course is not satisfactory as it gives no indication of which activity was most successful and why. Critics of this approach argue that marketing is not the only profit centre of the organisation and that the high profits recorded by the marketing department are really a combination of the profits created by the various departments of the organisation (Glen *et at*., 1991). Such criticism stems from the inter-department rivalry that is common to many organisations and could be an indication that the goals and objectives have not been properly disseminated. It is also worth emphasising that market penetration or customer satisfaction can only make a positive contribution to the organisation's stature and performance if it improves its profitability.

Activities like distribution and promotion can be measured by surrogate measures but these cannot be assigned to all marketing activities. It is the responsibility of the senior executive in charge of marketing to clarify the nature and purpose of the organisation, and communicate these to the other marketing executives. The bottom line, though, is profit as an activity that costs more than it brings in reduces the overall profitability of the organisation (Glen *et at*., 1991).

However, objectives cannot be stated in isolation; that is, objectives cannot be formed without the perspectives of the company's current business, its past performance, resources, and environment. Thus, the strategic analysis becomes the background material for defining objectives and goals (Jain, 2000).

2.5 Marketing Strategy Analysis

Understanding marketing strategic analysis is the bases upon which marketing strategic decisions are constructed. In this context marketing strategic analysis is broken down into two basic elements: external analysis and internal analysis. Undertaking the analysis is not, however, a linear process and there are areas of the analysis that overlap. The aim of the analysis is to develop a full and comprehensive view of the organisation and its external environment to enable the organisation to formulate informed marketing strategic decisions.

However, the external and internal analyses are very broad areas that encompass all aspects of the organisation's business environment. For the purpose of this study, the following will be considered:

External Analysis:	**Internal Analysis:**
Macro-environmental Analysis.	Company Capabilities.
Industry Analysis.	Company Assets.
Customer Analysis.	Company Competencies.
Competitors Analysis.	The Internal Marketing Audit.
The Market Analysis	SWOT Analysis.

2.5.1 External Analysis

The external analysis is the first stage of the auditing process. It creates the information and analysis required for the organisation to begin to identify the important issues that will need to be addressed in order to develop a successful marketing strategy.

2.5.1.1 Macro-environmental Analysis

The Macro-environmental analysis examines many environmental issues that may influence the organisation. This will include social/cultural issues, technological developments, economic factors and political/legal issues. This is usually referred to as a STEP analysis. The purpose of this analysis is to discover the significant issues in the external environment that may influence and effect the organisation.

Social/culture issues; include the structure and dynamics of individuals and groups and many of the issues that connect them. Society becomes worried about companies' activities when those activities have questionable or negative consequences (Dibb, Simkin, Pride and Ferrell, 1994). Demographic changes are also vital and can be used as lead indicators in certain areas, such as health care and education. However, other important areas such as social/culture values and beliefs that are vital to changes in consumer behaviour are harder to predict and can be subject to more dramatic chages.

Technological developments, with technological developments the changes are often more revolutionary (revolution changes, which required significant shifts to remain competitive). Aaker (1995), discusses the effects of changing technology from outside the market or industry, which might influence strategy, suggests that it 'can represent an opportunity to those in a position to capitalise…[but] could also prove a significant threat'. On the other hand, there is a huge danger in using a specific technology to define an industry. In a situation where technological developments are fast-moving it is important to understand the basic consumer needs which the organisation's technology is currently serving. Identifying new technologies that can service those consumers needs more fully or reasonably is the vital part of this area of the analysis.

Economic factors, changes in the size and structure of the population and in lifestyle and consumption patterns together with the prevailing political environment all have significant influence upon economic factors (Baker, 2000). Moreover, economic factors have to be viewed from a wider view than the organisation's domestic economy. In the global economy,

domestic economic conditions are greatly influenced by actions in other area of the world. Economics is concerned with the allocation of resources. Therefore, issues such as management of natural resources, costs of pollution, energy use and the whole issue of the management of natural resources should be considered under this heading (Drummond and Ensor, 2002).

Political/legal issues, there is a range of political organisations that have to be examined when looking at impacts in this area of the audit. The structure of a political system defines the centres of political influence. A state with a federal political structure will be different from a unitary political system. So, when examining this area of the environment a much wider view has to be taken than just the domestic national government or the legal process (Drummond and Ensor, 2002). Therefore, marketing managers must be informed about the political forces and laws that affect and influence the industry and their company's marketing decisions and activities (Stauble Vernon R., 2000).

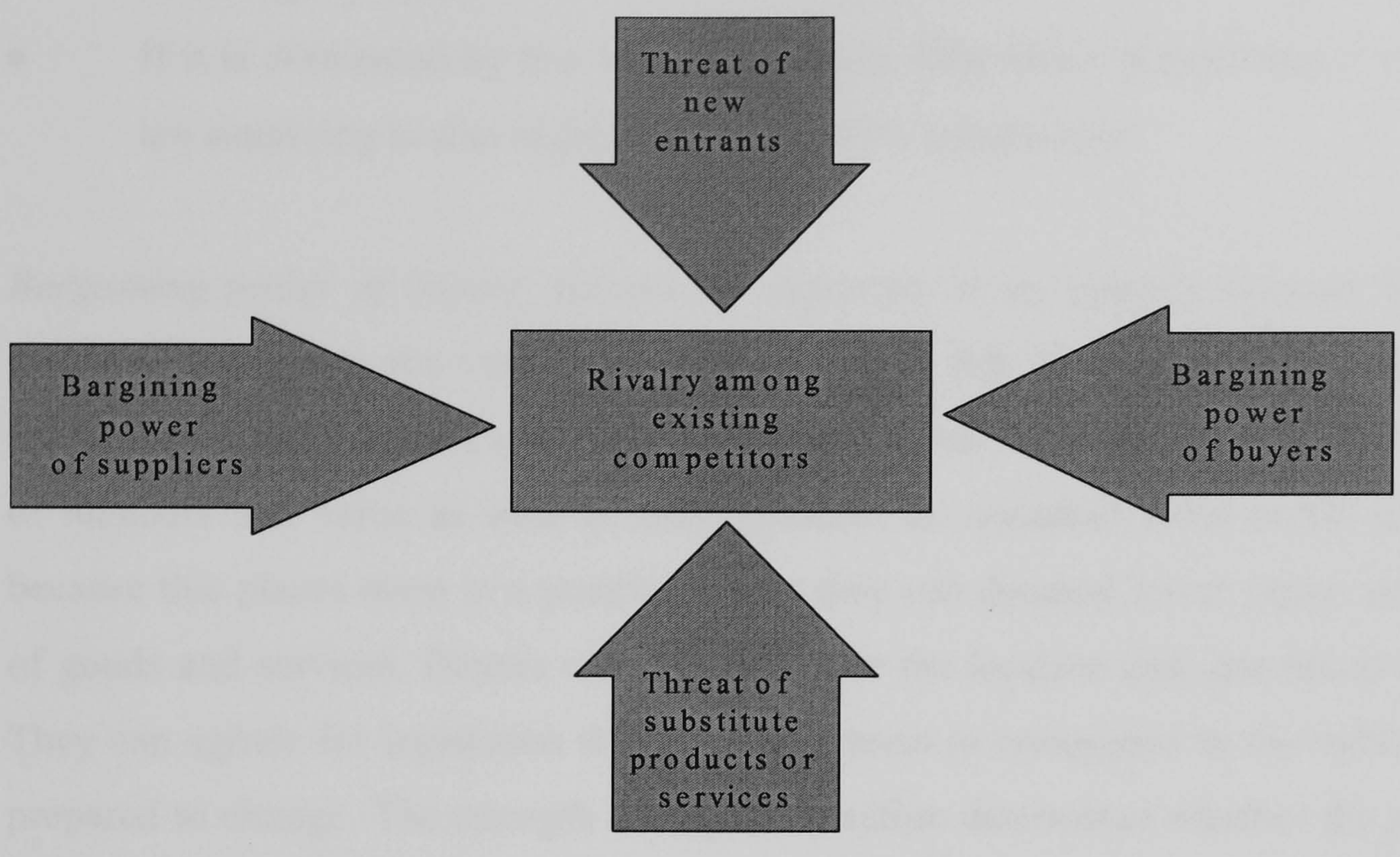
The central role of this analysis is to identify the important factors that may cause changes in the business environment. Then the intention is to establish how these key factors will affect the industry in general and the company in particular.

2.5.1.2 Industry Analysis

A company has to understand the nature of the relationships within the industry in order to enable the venture to develop marketing strategies to increase advantage of the current relationships. Therefore, a useful structure that can be utilised when performing this analysis is Porter's 'five forces' model of establishing industry attractiveness for a business.

Porter's five forces model, the basis of this model is that an evaluation of a company's competitive position must begin with the analysis of the forces that drive industry competition. The balance of forces inevitably influences the reactions of the company not only to competition, but also suppliers and buyers.

Figure 2.2 Porter Five Forces Model (Porter, 1980).



Bargaining power of suppliers: Suppliers provide the raw materials necessary for the company to carry out its business activities. Their bargaining power is therefore strong if they have sufficient power to determine the price, quality or quantity of the product supplied. If the product is undifferentiated, their competitive position is weakened because it becomes difficult for an individual company to determine price, except by means of auxiliary services. Their position is further strengthened if there are few suppliers servicing many companies. In this situation, they can raise prices and control supply either individually or collectively in a cartel. In addition, if the switching costs of the companies are high, and then the suppliers' position is reinforced. In summary, Porter postulated that the bargaining power of suppliers presents a strong force if the following factors are in effect:

- If they pose a credible threat of forward integration;
- If the suppliers' products are differentiated or it has developed other ways of; differentiating the product to make switching costs high for the companies;
- If the product they supply comprises are significant proportion of the buyers' business;
- If the product is difficult or expensive to substitute;

- If the industry they are supplying is considered to be of little strategic importance or advantage to them.
- If it is dominated by few large companies. This factor is enhanced if the industry they are supplying is also highly concentrated by comparison.

Bargaining power of buyers: Buyers are important to an industry because they provide the means of survival to the various demands. Products that do not find sufficient demand in the market are market failures and thus quickly withdrawn. A buyer group that is strong in terms of numbers and value as well as unity presents an immense force to the industry. This is because this places them in a position where they can demand lower prices and better quality of goods and services. Buyers can also influence the location and operations of the industry. They can agitate for legislation that may be a threat to companies in the industry that are not prepared to change. The strength of buyers therefore determines whether the profits made by the industry are utilised within that industry, or instead appropriated with suppliers, depending on which of the two forces is stronger. Porter summarised the following factors that determine the relative power of buyers for an industry. Buyers are powerful if:

- They have full information;
- There is a credible threat of backward integration;
- The products they demand from the industry are standard or undifferentiated;
- They earn low profits or if the relative utility of the product is low;
- Their switching costs are low;
- The product or service is of limited importance to them, or if it is insignificant to their product or service;
- Their combined volumes are bigger or greater in value than the suppliers';
- The product or service represents a significant component of their costs or purchases.

Threat of entry: This relates to the ease with which other companies can enter the industry and varies with type of industry and the operating macroeconomic climate. It is not enough to know one's current competitors. It is important to identify the factors prevalent in the business environment that may make it an attractive choice for new firms. These may be industry-

specific like distribution channels or high sunk costs, or in the wider macroeconomic environment in which the industry operates. This helps in establishing the parameters on which future inter-industry competition will be premised. Whether the industry faces a credible threat from new entrants depends on the barriers present and the extent to which it is possible for the current players in the industry are able to unite. If the latter is possible, then they can reinforce the existing barriers or erect new ones. Combined together, these barriers increase the costs of entry for a new firm thus keeping the profits from the industry distributable to only the existing companies. It is usually the case that more profitable the industry, the more difficult it is for new firms to enter it or compete favourable in it.

Threat of substitutes: Substitutes are distinct from competing brands in that they are alternative products or services that are developed and sold to meet the same need as those produced by the industry. For instance, glass was the most commonly used material in the packaging industry, especially for food products. The development and wide market acceptability of food grade plastic represented a major threat of substitution to the glass industry. Not all substitutes bear equal potential of threatening the industry. Porter suggests that substitutes present a credible threat if they are produced by industries reaping high returns from their production or, alternatively if their product is potentially more attractive to buyers than what the industry currently produces. This attraction is specifically associated with price, quality and performance standards. If, for instance, the substitute product is cheaper and thus represents a cost reduction in production for the buyer, then the threat to the industry is high. The same situation applies if the product is more expensive but perceived to perform better. It is therefore crucial for firms in an industry to study what the trends are so as to make timely strategic decisions either by increasing the price and performance combination of their product or diversifying to the new substitute altogether. The latter is the only viable solution if the substitute replaces the existing product. An example of this scenario is the current EU legislation on unleaded petrol.

Rivalry among existing competitors: Except in a pure monopoly, no enterprise is free from inter-industry rivalry. Nevertheless, some industries face keener competition than others. As mentioned earlier, companies are attracted to an industry because of its high profit potential

and this is usually the basis of this competition. A weak competitive environment allows individual firms to increase profits by raising prices without fear of substantial retaliation by competing firms. On the contrary, strong inter-industry rivalry implies that an individual firm cannot expect to increase profits by increasing prices as this will lead to repercussions from the other firms with the result that the firm's profit may in fact reduce. As such, significant price competition at times degenerating into outright price wars, is common where inter-industry rivalry is high. Strong inter-industry competition also results in lower profit margins, hence industry profitability is enhanced only by high sales volumes or product augmentation. Porter cited the following as factors that may determine the level of rivalry within the industry. It will be high if:

- The companies are numerous or equally balanced;
- The industry is either in slow growth or decline;
- Storage costs are high;
- The products sold are standard or undifferentiated;
- The switching costs are high;
- The production capacity is augmented in large or costly increments;
- The costs of exit are high;
- The industry possesses high strategic stakes.

This model is useful in presenting a framework of industry analysis. The five forces are common to all businesses and the relative importance of each changes with the business environment. It is thus crucial that the model be used regularly as this can depict the prevailing trends in the industry. In addition, the 'five forces' model enables the company to identify the main forces that are present in the industry sector. This can be related to the important factors, which were identified by the STEP analysis.

2.5.1.3 Customer analysis

The relevance of knowing exactly what your customers want cannot be overstated. Why do they buy Product X and not Y? What need does X satisfy that Y does not? What are their

tastes, preferences, motivations? Needless to say, knowing one's customers does not result from random casual contact but from an organised, concerted effort on the part of the marketing executives over a period of time. Sadly, many organisations are unwilling to support this process because it takes time and does not yield results immediately. It is worth stressing that this knowledge is critical to the development of a marketing strategy that is customer based, customer driven and customer focused. However, in a free economy, customers tend to wants different services or products. But a company cannot reach out all customers with equal efficiency; it must differentiate easily accessible customers from hard-to-reach customers. Moreover, a company faces competitors with capability to respond to customer needs and cover customer groups that differs from its own. To set up a strategic edge over its competition with a feasible marketing strategy, it is important for the company to clearly define the market it intends to serve. It must segment the market, identifying one or more subsets of customers within the total market, and focus its efforts on meeting their needs; as effective targeting of the customer group offers the company an opportunity to set up competitive advantage (Jain, 2000).

Therefore, it is vital for the marketing strategy analysis to include analysis and information about customers. Information about the customers can be divided into current and future customers. The significant issues regarding current customers are who the main market targets are; what gives them value; how they can brought closer; and how they can be better served. On the other hand, for the future, companies need to know how customers will change; which new customers to follow; and how to chase them (Hooley *et al.*, 1998).

Buyer behaviour changes over time and the marketing strategy must be such that it can track these changes and respond appropriately. Also, marketing executives should never assume that buyer behaviour is replicated in a different geographical area that has similar customer trends. This is because of the different cultures, social mix, or even climatic conditions as well as other perceptions that could be characteristic of various geographic regions. Therefore, these differences create market segments. Market segmentation is 'the process of identifying and analysing the buyers in a product-market with similar response characteristics' (Cravens D.W., 1994).

Considerable research has been carried out into the various parameters to take into account in segmenting markets. The fact is that the relevant importance of the factors in question depends very much on the type of product or service, and the nature of the market. As in the factors discussed above, market segmentation also follows the business strategy very closely. In cost leadership, the important parameters to consider in market segmentation are income and the value perception. Subsequently, the organisation will focus on the needs of consumers whose average disposable income is generally below the regional average and whose value perception equates to low price. In contrast, an organisation following the differentiation strategy will focus mainly on convenience and the image that the product or service is perceived to confer on the user.

2.5.1.4 Competitors Analysis

Sun Tzn (see Clavell, 1981, for accessible translation), the great fourth-century BC Chinese general, encapsulated the importance of competitor analysis: 'If you know your enemy as you know yourself, you need not fear the result of a hundred battles. If you know yourself but not the enemy, for every victory you gain you will suffer a defeat. If you know neither the enemy nor yourself, you will succumb in every battle'.

What was true of war in the fourth century BC is evenly true of business today. Today's business world is characterised by tough competition in almost every industry. This is due in part to the wave of economic liberalisation that has swept over the developed world. An organisation that does not keep up to date with the activities of its competitors will find it very difficult to meet its long-term objectives. Competitor analysis should be done first and foremost to identify unsatisfied demand in the market. Organisations should, as far as possible, resist competitive wars, as these are very costly in terms of resources committed to protect a single market segment.

Competition in its most basic form occurs in virtually all areas of business. Organisations need to keep track of the changes in the competitive environment. The first step is to attempt to

develop a system that is capable of gathering all the relevant information regarding the competitors' activities. These include activities such as, competitors objectives, competitors past and current strategy, competitors capabilities and competitors future strategy and reactions (Lehmann and Winer, 1991; Lehmann and Jocz, 1997).

Competitor's objectives, understanding the objectives and goals of competitors are vital and can give guidance to marketing strategy development. Goals can point to where the company is aiming to develop and in which market, either by industry or internationally.

Assessing competitors' current strategy and activities, this process involves asking the simple questions: "what exactly is the competitor doing at the moment? This requires making as full as possible a statement of what each competitor is trying to do, and how they are trying to achieve it. However, there are major sets of issues which need to be examined with regard to understanding current competitor strategies. Firstly, identification of the markets they have chosen to work in. Secondly, identification of the way in which they have chosen to work in those chosen markets. Thirdly, the supporting marketing mix that is being adopted to allow the positioning aimed for to be achieved. Beyond these three centre elements of the strategy it can also be helpful to examine the company marketing effort (the structures adopted) to ease implementation of the strategy (Hooley, *et al.*, 1998).

Competitors capabilities, an analysis of a competitor's capabilities allows a judgement to be made about how well capable they are to address the market, given the dynamics in the industry and trends in the external environment. Leman and Weiner (1991), suggest that, in order to assess a competitor's possible challenge to a company, a number of areas need to be examined: Firstly, innovation capabilities, examining the ability of a competitor to innovate will help the company to forecast the probability of new products being brought to market, or of new technologies being employed to replacing existing products. Indication of this type of ability comes from assessing technical resources, human resources, and financial resources.

Secondly, a financial capability, the ability to finance development is a critical area. Examination of published accounts can reveal liquidity and cash flow characteristics of

competitors. However, such firm data should be supplemented with assessments of the qualities and skills of the human resources available within finance.

Thirdly, production capabilities, firms with loose capacity clearly have more opportunities to respond to increased demand. Similarly service companies that can manage their resources flexibly by, for example, calling on temporary but adequately skilled and motivated staff may enjoy more flexibility than those with a fixed staff with unbending skills. Ability to produce is indicated by physical resources together with human resources (Hooley, *et al.*, 1998).

Fourthly, management capabilities, the background and previous approaches of leading managers in a competitor company can give ideas as to their likely future strategy. The level of centralisation, or decentralisation of management decisions will also affect the decision-making process. Recruitment and promotion policies, along with the wage and rewards scheme, all these information will give an idea as to the culture and style of the management team (Drummond and Ensor, 2002).

Finally, marketing capabilities, despite strong innovation and production abilities a competitor may be relatively weak at marketing its products or service to its customers. Examining marketing capabilities is best applied through examining the elements of the marketing mix. Central to this analysis will be the examination of the skills and knowledge of the staff involved in marketing, sales advertising, etc. (Hooley, *et al.*, 1998).

Predicting competitors' future strategies and reactions, it is very important to evaluate the competitor likely reactions to any marketing strategic moves the company might activate. The reactions of the companies can be categorised into four types of response (Kotler *et al.*, 1996):

Firstly, certain retaliation, the competitor is certain to react in an aggressive manner to any challenge. Market leaders, especially, are more likely to react in aggressive manner against any threat to their leading position. Companies that have and aggressive culture may also fall into this category.

Secondly, failure to react, competitors can be driven into a false sense of security in an industry that, over a long period of time, has seen very little change. In this situation companies can be extremely slow to react to a competitive move.

Thirdly, specific reactions, some competitors may react, but only to competitive moves in certain areas. For instance, they may always react to any price reductions, or promotion, as they believe these will have a vital affect on their business, but they may not respond to a competitor's increase in advertising spending. Moreover, the more visible the competitor's move the more likely a competitor is to respond.

Finally, inconsistent reactions, some companies' reactions are simply not predictable. They could react in an aggressive manner on occasion but at other times they do not react to certain competitive challenges (Drummond and Ensor, 2002).

Therefore, it is important to track competitor activity because it may indicate an opportunity that the organisation may have overlooked. Also, whatever action a competitor undertakes is bound to affect the organisation in some way. However, the organisation must cease the "pack mentality" unless it has positioned itself in the market as a follower. This is because not all major competitor strategies are sound or profitable in the long run. Similarly, the organisation may not be in position to commit as many resources as the competitor who has ventured into a new area.

In developing marketing strategy, managers should not be locked into current competitive stances or actions in the market. Rather, they should go a step further and forecast the likely responses if the organisation follows a given strategy. The competitive landscape is extremely dynamic and is bound to alter in response to not only the actions of other players in the industry, but also to perceived or expected changes.

The overall impact of a given marketing strategy, therefore, is assessed according to the overall effect on the organisation. If, for instance, an organisation's marketing strategy results in the launching of a new product, the overall impact of this on the whole organisation

comprises their increase in sales, the performance of the entire existing product line, and the counteractions of competitors. These may be in the form of price and territorial wars, new investment in plant, process or machinery, new product development, etc. Again it is important that the organisation considers the short as well as the long-term impact.

2.5.1.5 The market analysis

The marketing analysis will consists of a range of factors that significant to the particular situation under evaluation; it would usually contain some areas such as:

Market share and potential market size, the issue of measuring marketing objectives has already been discussed. Market share is a means by which an organisation can track their performance over time, although it is not the only method. Market share is important especially to organisations following the focus strategy as it can be used to determine the extent of market penetration in comparison to their competitors (Dickson, 1994).

Market needs are critical to the development of a marketing strategy that will be effective in the long run. Customer demands, tastes and preferences have to be monitored and met; the market must be analysed to determine how attractive it is to potential competitors; "gaps" must be identified and isolated; the method of entry and level of involvement must be kept in mind. This calls for the support of the organisation to ensure that none of these aspects are left to chance. Also, the various activities must be properly co-ordinated if the organisation is to achieve its long term objectives.

Therefore, estimation of the total sales in the market, which allows the company to assess the realism of specific market share objective. Identification of the main sub-market of this market, and possible areas of growth, is vital to the marketing strategy formulation, as it may establish any areas that are in decline.

Trends, analysing general trends in the market identifies all the changes, which have really taken place. This can help marketing managers to discover the reasons for these changes and expose the significant drivers underlying the market.

Gap analysis, at the core of gap analysis is the identification and isolation of opportunities that exist in a given market. The business strategy may go so far as to highlight these. Indeed, some businesses are formed for the sole purpose of exploiting some opportunity in the market. However, this is not always the case. In some instances, opportunities are discovered when the existing market, industry or product is approaching maturity and the organisation is forced to investigate other options. Nevertheless, a discovered "gap" in the market is not necessarily an opportunity to be exploited there and then. It must be carefully analysed with reference to how it fits into the organisation's current mission and culture. In addition, the costs associated with it must be analysed in detail, as well as how competitors are likely to respond and how that will affect the market positioning of the entire organisation. All this must be considered for the long term as well as the short term (Ansoff, 1968; Baker, 2000, Drummond and Ensor, 2002).

Customers and segmentation, the analysis needs to include information on where, when and how customers purchase the product/service, which enables the company to begin to understand customers needs. In addition, identifying changing trends in consumer behaviour may start to indicate possible market developments and opportunities (for more information about customers, see customer analysis).

Distribution Channels, identifying the changes of significance between channels of distribution, based on growth, cost or effectiveness, permits a company to assess its current arrangements. Establishing the key decision makers in a channel of distribution also helps to inform strategic decisions (Drummond and Ensor, 2002).

2.5.2 Internal Analysis

The internal analysis of the company resources is the final stage of the marketing strategy analysis. It creates the information and analysis required for the company to identify the key assets and competencies (Day, 1994).

2.5.2.1 Company Capabilities

Company capabilities are defined as 'the combination of assets and competencies that denote the company competitive capacity' (Drummond and Ensor, 2002). Therefore, establishing a company current and potential capabilities is dependent upon an evaluation of two aspects of its resources: assets and competencies. However, it is important to address 'marketing capabilities' before discussing assets and competencies.

Marketing capabilities

The marketing capabilities stem from the central processes in which marketing is concerned.

Strategic marketing capabilities: the strategic marketing capabilities can be assessed by:

- Market sensing capability: it is the capability of the company to understand the external environment and the capacity for specific capabilities which include the ability to conducting competitive intelligence effectively and to communicate the intelligence results throughout the company as a basis for the decision-making process.
- Market targeting and positioning capabilities: it is the ability of the company to identify different opportunities and then select suitable market targets, where the company resources and capabilities are used for the best effect.

Functional marketing capabilities: there are many functional marketing capabilities to assess which include:

- Customer relationship management: this is including the ability of the company to obtain, keep, expand and to remove customers (if necessary).

- Customer access capabilities: this is the ability of the company to use existing channels and develop new distribution ways for serving customer.
- Production management capabilities: this is the ability of the company to manage existing products, that including the ability to manipulate others in the company, where their activities have affects on the customer satisfaction. This will include the marshalling of all resources to provide the customer value.
- New product development capabilities: this is the ability of the company to develop and innovate the next generation of products or services.

Operational capabilities: this is concerned with implementation capabilities of the company. This include the ability of the company to implement marketing strategies and marketing activities, such as price deals, promotions, public relations and so on (Hooley, *et al.*, 1998).

In assessing the capabilities of the company, it is crucial that the marketing executive thoroughly analyse the impact of an identified resource. For instance, the strong financial position of an organisation is an important competitive advantage. The marketing manager may only consider this strength in terms of improving the return of sales people or increasing expenditure on advertising and promotion. However, this financial power also makes it possible to invest in production processes like "Just in Time" that will cut down on the costs of warehousing and other distribution problems. The organisation's financial capability may also be used to overcome high entry barriers in a lucrative market, investment in research and development in new products or a more effective competitive intelligence system. These are capabilities whose effect on the development of effective marketing strategy is not immediately apparent.

2.5.2.2 Company assets

Company assets are the accumulate capital, both financial and non-financial, that a company has its disposal. "These assets are both tangible and intangible (Hooley, *et al.*, 1998) and include:

- Financial assets: for example, working capital, access/availability of investment finance and creditworthiness.
- Systems: management information systems and databases and the general infrastructure for supporting decision-making activities.
- Managerial assets: The experience of the managers and the way in which they discharge their duties and motivate their staff, have an important impact on the company performance.
- Physical assets: ownership or control of facilities and properties.
- Operational assets: such as production plant, and machinery.
- Legally enforceable assets: such as copyrights ownership, and licensing agreements.
- Marketing assets: Of particular concern in the marketing strategy formulation are of course marketing assets. Therefore, marketing assets will be discussed in details."

The marketing assets divided into four main categories:

Customer-based marketing assets: These are assets that the customer considers as being significant such as:

- Image and reputation: company reputation could be a marketing liability in some cases (Hooley *et al.*, 1998). Image and reputation could be a negative assets or a liability. The significance of this issue is underlined by evidence that customers are more and more unwilling to deal with companies they regard as unethical (Bernoth, 1996).
- Brands: they are very important because of the time and investment required in building them. Once well-known effective brands have high levels of customer loyalty, make competitive position that are defendable and obtain higher margins because customers feel a higher price is merited by the added value that the brand provides for them. Weak brands show the opposite characteristics (Drummond and Ensor, 2002).
- Market leadership: A strong brand may not be the market leader but a brand leader enjoys clear advantage such as excellent market coverage, extensive distribution and beneficial shelf positions in retail outlets.

- Country of origin: for companies operating in international markets, the identity of the home country could add either an assets or liability. Japanese companies, for example, communally enjoy good reputation for quality and value for money.
- Unique products and services: their exceptionality in the market can be built on a number of attributes, for example, quality, price and level of innovation (Drummond and Ensor, 2002).

Distribution-based assets: A number of assets lie in this area such as:

- The size and quality of the distribution network: the size of the distribution network should not be seen only in geographic spread but also of the strength of the coverage on the ground.
- Level of control over distribution channels: Investment in dominating some or all of the channels for a product can be a powerful asset (Hooley *et al.*, 1998). For example Irn-Bru is the market leader in the soft drinks market in Scotland. However Coca-Cola successfully stopped Irn-Bur to be distributed through McDonald's fast food restaurants in favour of Coca-Cola. Coke was able to apply control over that channel of distribution due to their global relationship with McDonald's (Drummond and Ensor, 2002).

Internally-based assets: There is a variety of company assets that could give advantages to marketing activities:

- Cost structure: the company could be able to achieve lower cost than the competitors through higher capacity utilisation, better economies of scale, or by applying newer technology. This enables marketing to set lower prices than the competitors.
- Production skills: which enable the company production to have more flexibility, higher quality or shorter lead time, all of which can be used to the advantage of the marketing people.

Alliance-based assets: there are many areas where the assets is connected to a formal, or informal, external relationship. The agreements with the third parties enables the company to achieve:

- Access to markets: through local distributors that the company could not cover with its available resources.
- Management skills: partnership may get access to abilities not held in-house, both in technology management and marketing management.
- Exclusivity: partnerships could produce monopolistic situations: for example, Coca-cola and McDonald's.
- Shared technology: through licensing or joint ventures.

2.5.2.3 Company competencies

These are the abilities and skills available to the company to line up the effective use of the company's assets. The mixture of assets and these skills allows the company to take on certain activities. These competencies can lie at the three levels of decision-making (Hooley *et al.* 1998):

Strategic competencies, these are related to the management skills, the force and strategic way for the company. They contain elements such as the leading logic or orientation guiding management, the ability of the company to learn and the ability of the senior managers to manage the implementation of the marketing strategy chosen.

Functional competencies, these contain marketing capabilities, financial capabilities and operation management capabilities.

Operational competencies, are concerned with undertaking individual line tasks, for example, operating machinery, the application of information systems and completing of order processing.

Individual competencies, these competencies are not based on individuals skill in separation, but on whether individuals have got the required skills to carry out their job in their area of responsibility, whether at strategic, functional, or operational level.

Team competencies, it is very important for individuals in the company to work together as a team. A key factor of a successful project management relies on the team competencies.

Corporate-level competencies, these are skills that apply to the company in its whole, to carry out tasks at strategic, functional and operational level.

Once the assets and competencies of a company have been identified, there are most likely to find some assets which are more important than others.

2.5.2.4 The internal marketing audit

According to Gronroos and Voima (1999), the term internal marketing was used first in the late 1970s. The internal marketing audit is mainly aimed at assessing the marketing activities of the venture and is divided into five different areas (Kotler *et al.*, 1996):

- Marketing strategy audit: this is assessing the company current objectives (corporate and marketing) to find out if they are relevant and clear. Then evaluate whether current marketing strategy matches the set objectives. This part of the audit also highlights whether sufficient resources have been allocated for the successful implementation of the marketing strategy.
- Marketing structure audit: this is the assessment of the structure of the marketing function within the company and also the relationship with other departments within the company. This internal structure audit should also be assessed to find out whether the marketing activities are carried out in an efficient way (Baker, 2000).
- Marketing systems audit: this part of auditing inspects the planning, control measures and the new product development in the company. It also examines the competitive intelligence that supports these activities.

- Productive audit: this part of the audit examines the company activities using financial criteria such as profitability and cost-effectiveness in order to measure the relative productivity of products, market sectors, distribution channels and geographic market (Drummond and Ensor, 2002).
- Marketing function audit: this part of the auditing examines in detail all aspects of the marketing mix.

The resource and performance audit

The resource and performance audit serves to highlight how the company combines its resources in capital, manpower and materials to create and sustain market value and competitiveness. In performing this analysis, it is important to distinguish between the resources a company has at it s disposal and those that are actually being used to create company advantage. For instance, an un-used warehouse might be an important asset to the company, but does it contribute to the market performance of the company? Another important aspect of this audit which is often overlooked is the fact that possession of resources alone does not guarantee outstanding performance in the market. The managerial and strategic skill necessary to combine all the raw material, machinery, manpower and marketing effort in such a way as to create and sustain long-term company advantage is critical. The problem here is that it is often very difficult to measure and quantify this input, especially where the market is either very unpredictable or slowing down.

These are the parameters that a company can use in order to measure its capability of meeting a demand that is known to exist in the market. The company should monitor industry-specific trends and modify its strategies accordingly. An analysis of the company's strengths and weaknesses will reveal which factors a company can control and use to gain company advantage and where it needs to strengthen. Lastly, an objective resource and performance audit is necessary to identify where the company is holding costly inputs, where it is slow and how it can organise all its resources to gain and sustain competitive advantage (Glen *et al.*, 1991).

Having assessed the external and internal environment, these parameters can be used to analyse how the company fits in the environment. Can the company serve the customers with tastes for expensive, high quality products? Where does company fit in the competitive arena? This leads on to the company identifying its strengths and weaknesses as well as the opportunities and threats inherent in the external marketing environment. The strategic fit is incomplete without the resulting diagnosis being related to the company competencies, capabilities and assets. This forms the link between the marketing environment and the goals and objectives of the company. It is important that these components are logical and consistent if the company is to achieve an effective long-term strategy.

2.5.2.5 SWOT Analysis

The discussion that follows has been strongly influenced by the writing of Nigel Piercy (1997), a British author who has been working significantly on making the SWOT analysis and other strategic planning tools more meaningful and useful for managers. As a planning tool, SWOT analysis is not naturally useful. Rather, the way in which SWOT is used will decide whether it will produce benefits for the market planning process or waste managers time (Ferrell *et al.*, 1998). It is important to point out that, raw material for SWOT analysis is generally drawn from the audit, although it may be supplemented by interviews with staff and customers (Adcock, 2000)

Internal marketing strengths and weaknesses

The most fundamental purpose of identifying what a company's strengths and weaknesses are is to obtain a true picture of what it is capable of both in the short and long term. The company should control its strengths to drive itself to greater market dominance and profitability. An objective assessment of a company's strengths and weaknesses will also indicate which market activities will be more costly, which markets to enter or exit, and where the organisation's resources need to be increased.

Since the basis of analysing the company's strengths and weaknesses is ultimately to ensure that it is well positioned to be in the chosen line of business, it is very important to identify the Critical Success Factors in that matter (Jain, 2000). Critical success factors, are identified through examining the differences between winners and losers, or leaders in the industry. They often represent the factors where the greatest influence can be exerted: that is, where the most effect can be obtained for a given amount of effort. From among the critical factors, an attempt should be made to sort out strengths. It is also desirable to rate different strengths for a more objective analysis (Ziegler, 1995).

The question that has to be asked initially is: what are the strategic features that a company in this business must possess? The next step is to compare the company to others in the same industry in order to determine the relative strengths and weaknesses. This is a very time consuming in depth analysis and it requires managers at all levels to step out of their day-to-day business and devote time and effort to this exercise if the process of strategy formulation is to be successful. Some of these factors will be industry specific, while others will apply to all companies involved in business. It is important to note that the key success factors may be different for the same company in a new market.

While the marketing function is likely to have the most relevant variables in the SWOT analysis, it is by no means the only one. Some of the factors that influence marketing strategy may be beyond the scope of the marketing function. For this reason, the factors identified as key to marketing should be widened to determine where the source of the strength or weakness lies. For instance, if the company is much worse than its strongest competitor as far as customer loyalty is concerned, the key managers must investigate what aspects determine customer loyalty. If one of the factors is service then the company has to examine its human resource policies as regards recruitment, selection, training and motivation. This has implications on the staff requirements of the company as well as the availability of funds to pay them adequately. This leads to the finance department examining where most of the company's funds are tied and what can be done to improve the cash flow situation; whether employing fewer staff and investing in technology will lead to a net saving, if the company has the skill and necessary investment. Such a process is very time consuming but of great

importance if the company is to shape in such a way as to develop a long term marketing strategy. It requires input from all the functional areas of the company. This is why it is critical to have a mission statement; goals and objectives to which all managers and staff aspire, and a shared vision of the firm's future position (Fifield, 1998).

This analysis also has implications on how the company is perceived to be performing in the market place. Indeed, customers can be an important source of information on what a company's strengths and weaknesses are. This is because members of a company can become so internally focussed that they stop to see themselves as the market does. In addition, customers can also provide an indication of the relative strengths of competitors and the company can exploit this to use gaps in the market.

It is clear that the process of identifying a company's strengths and weaknesses has as many levels as the separate functional areas of the company. The purpose of this is to capitalise on the synergies that exist in the company to make stronger its strengths and, where possible, correct or balance the weaknesses. Strengths and weaknesses can also be analysed from the perspective of a company's products and markets, or its strategic business units. The business unit may already be operational, or one that the company is considering entry into. Analysing the company's corporate portfolio can be useful in determining its future strategic direction. For instance, if the analysis shows that the company is weak in research and development, then new product development cannot be a practical strategic direction in that particular market.

Success in the market place derives from the company being better in one or more critical success factors than competitors or having greater overall core competence that can generate new opportunities. A company that has the copyright to a process of production will be stronger than its competitors even if it has weaknesses in other areas. If the weakness is in its marketing effort, an independent distributor can be engaged and thus the overall position can be improved.

Once the strengths and weaknesses have been identified, the next task is to match these with the opportunities and threats that exist in the market. The idea here is to build a framework on which future strategies like market selection, programme generation and resource allocation will be developed.

Opportunities and Threats

The marketing environment is characterised by numerous opportunities that attract companies. For each opportunity, however, there exists a barrier that has to be overcome if it is to be realised. This situation is what makes resource allocation such a critical function in any company. Opportunities and threats can only be identified and analysed with respect to their overall impact on the company by careful and regular examination of the trends in the environment.

Threats

The greatest challenge that marketing managers face in determining what the threats are to a company is the dynamic nature of the business environment. Some aspects of the external environment are slow and predictable. For instance, the trend towards environment conservation has been growling slowly for the last decade or so. On the other hand, some changes cannot be easily anticipated and yet take immediate effect. For instance, merger activity is usually announced only when negotiations are already in their advanced stages.

Managers must take account not only of the current marketing environment, but also how it is likely to change and thus develop a contingency plan. The relative sensitivity of a given factor in the external environment varies but the company must develop an effective competitive intelligence unit for early warning system so as not to be caught unawares by the changes. Significant changes in technology can be forecast by keeping up to date with the trends. This can be done by reading the relevant journals, research papers, acquiring CD-ROMs checking specific web-sites, and fully exploiting the personal and professional contacts.

Managers are generally more sensitive to the threats and how they are likely to impact the company in terms of stability, growth and sustained profitability. As has already been pointed out, the market environment is not static. A major competitor who has responded to price cuts by price war may suddenly change tactic and maintain price. New competitors may enter the industry, bringing with them strategies, policies and practices that are new to the industry. This is what happened in the US automobile industry when Japanese manufacturers entered the market with production and marketing methods that their US counterparts had never used and, therefore, could not quickly respond to. Technological advances may bring about new substitutes or make new processes and methods of production possible. Large suppliers may acquire a competitor by forward linkage, making it more difficult for other companies in the industry to compete. All these changes cause a response from the industry and may lead to merger and acquisition activity. Sometimes the only strategy for survival is seeking alternative markets, going abroad or shifting production facilities, but this is not always possible.

One of the greatest dangers that marketing managers face in carrying out this exercise is focusing on the competitive arena at the expense of the global political and social environment. The petroleum crisis of the early 1970's led to an increase in demand for smaller, fuel-efficient cars in the US. Marketing managers in the automobile industry who were confident that this would only be in the short term ignored this. Japanese companies, meanwhile, took advantage of this trend and improved the small, fuel-efficient cars, selling them globally. The crisis came to an end after a few years, but by then smaller cars had become popular and Japanese companies had already edged into the market. Companies that resisted the move towards smaller cars had to re-think their current marketing strategy in order to survive in the business (Glen *et al.*, 1991).

Some trends in the external environment are global, but most of them are localised to countries and regions. Such trends force companies to diversify their markets especially if the industry has high exit barriers. However, the decision to go to markets overseas is extremely risky and is to be made only after extensive research has been done. At the end of the day, many companies choose to develop strategies and tactics that enable them to compete successfully in their current markets.

Opportunities

Opportunities in the business environment are available only for a limited period of time. Companies that do not have an effective decision making system, or where competitive intelligence is poor can miss an opportunity. On the other hand, not every opportunity in the market can be well exploited by a given company at a particular period of time. Timing of entry is always a very important consideration in market entry, but can be the difference between survival and failure in some specific industries. For example, in the high-tech, fashion and music industries, timing is a critical success factor not only in entry but also in sustainability of the business.

More often than not, the only challenge that opportunity presents is to do with resource allocation and decision-making. This is due to the fact that pursuing one line of business automatically means that another opportunity must be foregone. This happens whenever a choice is made in business and managers must devise a means of weighing each opportunity in terms of all the foreseeable costs involved against expected returns. It is also important to note that an opportunity in one situation could be a threat in another. An example is the possibility of acquisition and merger activity. If the merger is going to result in new distribution outlets, increased investment in research and development and highly skilled staff, then the company being acquired can perceive this as an opportunity. If on the other hand the merger activity will lead to closure of a business unit or stripping of assets, then it is a threat to the organisation (Wensley, 1999).

The possibility of entering a new market segment is another opportunity that must be managed well if its benefits are to be realised. Before the decision is taken, the marketing executive must spend considerable time and effort in assessing the market size, growth potential, competitive structure, entry and exit barriers and the long term implications of entering this market. In addition, the marketing executive must analyse the various possible methods of entry; whether there exists a niche that the company can maximise by establishing a unique yet unused advantage. This advantage could be for a whole range of activities, from raw material supply, direct production, distribution or after sales service. Managers must not be quick to enter markets that appear to have low entry barriers. This is because low entry

barriers are a signal of increased competition and hence low profit margins leading to price wars, and other such activities that are characteristic of high intra industry rivalry. There are instances whereby markets with high entry barriers can be considered for entry in spite of the high risk and investment that may be required. Such instances include markets where exit barriers are low, where the company possesses some unique advantage critical to success in that particular market and where it is possible to establish and sustain a strong position.

It is important to identify those opportunities that not only represent gaps in the market, comply with the company's mission and business objective, but also match the company's strengths. How attractive a market is can be determined by this single factor even though the company is relatively weak in other areas. This is especially the case where the company's strength is also the critical success factor in the industry. It can also occur in instances where the company's strength is likely to change the trend of production or distribution in the entire industry.

Davies (1995), suggests that 'At the end of the process there will be a clearer appreciation of how others see the business…The conclusion should be validated by customer contact afterwards. In [his] experience this openness (checking with customers) is rarely abused and often produces insights which a wholly internal process cannot'.

Formulating marketing strategy is all about identifying and building and sustaining advantages. These may be resources, skills or capabilities and they are then organised and improved until they become the core competencies that the company then uses to target, select and enter markets. This is crucial if a company is to be successful in the long term. Therefore, The formulation of effective marketing strategy must include an analysis of the external and internal environment with the purpose of achieving strategic fit. The opportunities and threats in the external environment must be identified and carefully analysed both in the short and long term. The company's strengths and weaknesses must also be determined in order to establish whether the company is capable of taking advantage of the opportunities identified in the external environment. All the activities carried out by the various sections of the company must be governed by the company objectives. Company capabilities, assets and strategies

should be clearly set out and understood by all the managers concerned with policy formulation at all levels of the company.

The process of strategy formulation has as its cornerstone in depth analysis of the phenomena existing in the internal and external environments of the company. Many fail because the depth of their analysis is insufficient for the various variables to be correctly isolated and interpreted. Because many of the factors are interrelated, it takes time to get out the most important issues and isolate indicators and establish causes. There are several levels of analysis involved in the strategy formulation process and an error made in the lower levels can affect the whole outcome if it is not spotted early enough in the process.

It is often the case that members of staff of a company find it difficult to perform objective analysis especially when carrying out internal examination. Strengths are often exaggerated and weaknesses minimised because of the way they may reflect on individual members of the organisations. For the process to be productive, the organisation must have instituted a no-blame culture but this is extremely rare. The result is an untrue picture of the organisation's strengths and weaknesses. Since competitors are assessed according to their relative positions, their power is often underestimated or otherwise misjudged and the strategies that arise out of such analysis do not yield the expected returns. This is why it is beneficial to have competitive intelligence experts to carry out this examination. In addition, certain important aspects of the companies culture for instance, can only be defined after a considerable time period and this may be outside the scope of external consultants. In the final analysis, the responsibility is on senior management to institute systems and procedures that produce in depth analysis at all levels in an atmosphere where the staff are confident that they will not be penalised for exposing the inefficiencies and weaknesses that exist within the company.

2.6 Strategic Decision Making

Strategy analysis is just a step to strategic decision-making. The detailed analysis that the process of analysis entails is crucial in laying a firm foundation for the process of strategic decision-making. This process is best examined in the four stages outlined below:

2.6.1 Business goal definition

Why are we in this business? This is the question addressed when considering what the business objective of the company is or should be. This question is asked at least annually to assess whether the company is actually going according to the business objectives laid down in the previous year. To arrive at a satisfactory outcome, it is important that the various functional areas of the company are consulted and taken into account. Generally speaking, the business objective should be based on marketing terms. Senior management must try and establish how the market perceives the company and its products. This is because of the special place held by the marketing function in channelling money into the company. Nevertheless, the marketing managers concerned must use guidelines provided by the finance and accounting function as well as the capacity of the production equipment if the company is in the manufacturing or processing sector (Glen *et al.*, 1991).

It is important that the managers detailing the business objective of the company develop a long-term perspective. Where are we? Where do we want to be in two, five, ten years' time? The dangers and pitfalls associated with market and company shortsightedness have already been outlined but it is worth emphasising that a business that cannot withstand the short-term market pressures is clearly not geared for long-term success. Nevertheless, the managers must be able to forecast beyond the price wars, territorial conflicts and poor brand performance that may be the current situation in the market (Dickson, 1992). Similarly, the fact that Product X is a market leader in its category does not necessarily imply that the battle for market dominance has been won, nor that the same strategy should be adopted for the rest of the products.

Another aspect crucial to the successful development and implementation of the business objective is that it must be clearly articulated, communicated and agreed upon by all concerned. This will prevent personal or inter-departmental conflicts from standing in the way of an otherwise viable business opportunity. Furthermore, it will enhance unity and ensure that all staff are pursuing the same strategy, aiming at a common goal.

The importance of having a purpose that unites the entire company has already been highlighted. Every company has a hierarchy of objectives, with the corporate goals occupying the top most position and reflecting the interests of its stakeholders. These goals are translated into more specific, measurable targets for each of the functional divisions of the company. It is within this framework that marketing operates and the corporate goals set the limits in terms of capital expenditure, products and markets. While the process is very important, the goals are not meant to be set in stone. Rather, they are to be re-examined in light of the experience in the market, availability of resources and alternative courses of action that may arise.

At another level, goals are prioritised even internally according to the attitude and interests of the stakeholders, and these vary not only with companies but also governments. For instance, in the highly competitive markets of the United States, financial measures like price/earnings ratios, earnings per share and growth rates are rated very high within the goal hierarchy. On the other hand, until the Asian crisis, high quality products, adequate returns and market share took priority in Japan (Glen *et al.*, 1991).

In most organisations, the marketing department's goals are often related to sales. The targets are therefore set in terms of sales revenue and market share. It is important, however, that the targets include some profitability index. This is because the company relies on sales revenue to meet most if not all of its operating costs. Thus evaluating performance in terms of sales volume and revenue alone could be misleading. Unfortunately, inter-departmental communication and co-operation is still at such levels that make sharing of such crucial information difficult if not impossible. Marketing managers set targets that are based on volumes and the sales force is content to sell at a certain level which may not be that high in terms of profits. Consequently, price increases are forced onto the marketing department often without adequate consultation and the hostility between finance and marketing increases, employee dissatisfaction increases and the companies become weakened. To avoid this situation, some companies now set marketing goals not only in terms of sales volumes and revenue, but also profits and return on capital employed (ROCE) but this is not without its own problems. Not all marketing expenditure yields immediate results in terms of increase in sales volumes or profit. A company that chooses to strengthen itself in a market where it is

already strong or in which it dominates should not expect much increase in sales or profits. Such factors should be taken into account when prioritising goals and setting targets (Dickson *et al.*, 1992.

The issue of setting profitability targets is extremely important for any company and usually falls directly under the responsibility of the marketing manager. In some instances, the targets are determined by the chief accountant of the company but they must be agreed upon and arrived at after consultation with the marketing manager if they are to be implemented. Situations where targets are not consistently met should be closely monitored and solutions found as to what could be causing the problem. The strategy for improvement may be market penetration, market development or new product development. This is why it is crucial that there be a system of open communication between the sales personnel and the marketing manager. The effort should be supported and co-ordinated by management at all respective levels.

Setting effective goals involves finding a certain balance. The targets must be such that they are attainable but also at the same time inspire the salespeople. A downside to avoid is the temptation to set targets so low that they can be easily achieved. This is obviously a very short-term perspective on marketing and should never be encouraged. If the targets are consistently met, it could be an indication of the existence of unused potential in the market. Consequently, the goals should be revised upwards to take full advantage of the same. Similarly, it is not unusual to find that the sales targets are not achieved for some period of time due to various factors that may be related to the internal or external environment of the organisation. This situation should be examined and effort made to redress it before the targets are lowered. Whatever the choice, it is critical that correct analysis be made as quickly as possible. Although timing is very important, urgency should never be allowed to take priority over the accurate analysis that precedes correct interpretation of market phenomena.

Corporate goal setting is a process that involves the senior management of the company. Corporate goals set the standard for marketing targets and the marketing manager should be able to refine the overall objective into specific targets for the staff in the department. The

process of the company resource allocation between the various products, markets or strategic business units is important, therefore, the marketing manager should be fully aware of the relationship between these factors before taking or setting strategies and tactics. After the goals have been set and agreed upon, the next task is for management to establish how these goals are to be achieved.

2.6.2 Programme Formulation

There is usually more than one way of achieving a given objective and it is no different in companies. The goals are set in general terms like " being relevant to our customers". This stage of strategic decision making consists of addressing the "how", "when" and "by whom" questions of the goals. Because of the numerous means of achieving goals, it is best to approach the task by encouraging as many alternatives as possible and then prioritising them according to some set standard. This standard is usually arrived at after examining the company's strengths, weaknesses, capabilities and competencies.

Michael Porter in his seminal work, *Competitive Strategy* (1980) identifies three generic strategic alternatives that an organisation can follow (see Figure 2.3). These are Cost Leadership; Differentiation; and Focus.

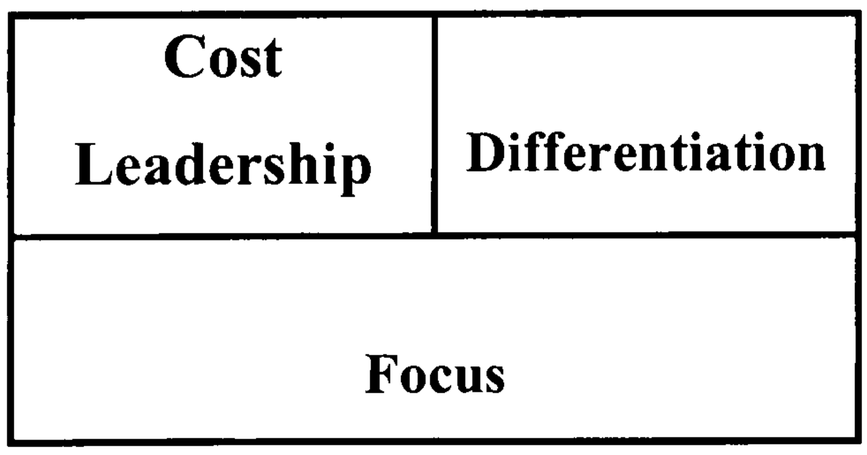


Figure 2.3 Three Generic Strategic Alternatives. ***Source: Porter (1980)***

The argument is that any company gains identity by being something to its customers and the general public and if it does not distinguish itself by these generic strategies, it risks losing

strategic focus and sight of its goals. Cost leadership is premised upon seeking to achieve the lowest possible cost of production. It therefore relies heavily on economies of scale and high volumes. Differentiation is based on identifying a segment and directing all marketing activity towards satisfying it by developing and introducing products that are significantly different from those offered by competition (Porter, 1980). Thus the two strategies are distinct in that cost leadership focuses on price, while the basis for differentiation is consumers. It is important to note that cost leadership is not identical with least market price of the products. A company pursuing this strategy can therefore gain premium margins given the volumes at which it produces.

Each of these strategies has implications on how the marketing effort is to be organised and which marketing variables take priority. Porter's generic strategies present the basics of strategic focus but the company should not be forced by them. Their importance lies primarily in building a general framework around which other strategies can be built. The impetus for new strategies stems from the marketing environment and it is the duty of senior management to ensure that the company is well balanced to meet the opportunities and challenges therein. If the purpose of the programme is to create competitive advantage or counter competitive threats in current or new markets, the strategic thrust will be on fitting the company's strengths to the market opportunities where those strengths are critical success factors.

Several models have been developed from the academic field of strategy that can be used to analyse and forecast trends in the market, forecast sales and other market related phenomena (see strategic marketing analysis part). Simulations of market conditions and the various possible responses from customers and competitors can also be generated by computer programmes. Forecasts developed by these and other methods are very useful as a tool for decision-making. Various resource combinations can be studied in light of expected outcomes, enabling the marketing manager to select the best possible alternative and assess the extent to which it fits the company's goals and objectives.

Typically, programmes require reallocation of resources both within the department to which it directly relates and from the supporting units as well. A programme to increase the size of

the sales force by 50% will affect the marketing department directly. From a more global perspective, it reflects the company's commitment to spreading out more extensively and building long-term relationships with customers. The company's image will therefore be judged according to the message these salespeople project and this may not be a specific aim of the programme.

The resource requirements in form of capital, labour and equipment should also be analysed in detail if the objectives of the programme are to be achieved. It is necessary to break the programme down further and examine its implications on the future of the organisation in general.

It is important to outline corporate goals before formulating programmes, as each new programme or project is potentially damaging to the company. This is more evident especially in the cases where the project outlay is large and represents a significant proportion of the company's total investment for the accounting period. The company may allocate resources to the new programme in such a way that the current business units and strategies suffer. This is not a planned incidence but the project may spiral out of control and totally change the strategic direction of the entire company. That is why it is crucial that the resource requirements of any programme should be carefully analysed from all possible perspectives and involve representatives from the functional departments of the company. If corporate goals are identified and communicated effectively throughout the company, the new programme can be steered and managed more effectively.

The process of programme formulation involves the complex parts of the company and should always be approached with a general outlook. As many alternatives as possible should be generated, evaluated and analysed. To aid the process, uniform ratings should be attached to phenomena which cannot be easily measured. This forms a basis for comparison and ranking. There is no single method of analysis but computer generated models and tools developed by economists and strategists are useful. It must be remembered, however, that these models are just a tool for analysis and not a replacement of managerial discretion and judgement. The

various options are analysed in terms of how well they fit the company's strengths, utilise its capabilities and competencies and achieve its long-term goals.

2.6.3 The marketing mix

The marketing strategy takes form in the marketing mix. In general, marketing strategy is concerned with the four main elements of the marketing mix: product, price, place and promotion (Morris and Pitt, 1993; Kotler, 1991; Wind and Robertson, 1983; Day, 1984; McDonald, 1996; Fifield, 1992; Hooley *et al.*, 1992; Varadarajan and Clark, 1994). The basic components of the marketing mix has already been highlighted. The duty of the marketing executive is to organise various components of the marketing mix-product, place, price, promotion, people, process and physical evidence- in such a way that they are a true reflection of the marketing strategy that is set forth in a document. It must also comply to the company's goals, mission statement and business strategy. For example, if the chosen market strategy is market penetration, the product policy could be making available a wider range or increasing the depth of the product line. The pricing and promotion activities will also be in line with this. The challenge for marketing managers is to obtain the right balance in all the various components of the marketing mix.

It is important that the marketing manager is not obstructed by the tactical day to day planning, implementing and monitoring of the individual aspect of the marketing mix. The marketing manager should ensure that all the tactics combine in such a way as to present a picture of consistence to the customers in a manner that will result in year end profitability. Sometimes marketing managers become too focused on a single item and so lose the overall picture. It is not uncommon to find marketing strategies that appear to be winners on paper that fail after a short time on the market because they turn out to be too expensive to implement (Pride and Ferrell, 1997). That is why it is crucial that the marketing manager should be involved at the strategy development and co-ordination level otherwise the whole marketing effort may be random and ultimately may fail to realise the objectives for which it was developed in the first place.

The task of co-ordinating the marketing mix in such a way as to maintain market focus is in reality extremely complicated. This is especially so for companies that operate in a diversity of markets and products. For example, imagine an organisation like Coca-Cola that has a presence on all the continents in the world. The product range on each continent is dictated by the special market conditions that exist there. On a smaller scale, not all the countries in a continent are homogenous in demand patterns, consumption habits and purchasing power. The same situation applies to different regions within the country. The marketing manager in charge of operations in Brazil, for instance, will have a marketing mix different from his counterpart in UK even though the marketing strategy may be the same.

2.6.4 Resource Commitment

In its simplest sense, resource commitment refers to budgeting. It is a further sub-programme. It consists of laying down detailed plans of how the programme is to be implemented and the cost burden of each of the items. Because of this, budgeting is usually the task of the finance department, having been briefed by the marketing manager (Glen *et al.*, 1991). Depending on the size and hierarchy of the company, it could take several days to months before senior management agrees to commit the necessary funds.

2.7 Implementation and Control

Implementation includes strategic performance. It is an important connection between the formulation of marketing strategies and the achievement of better organisational performance (Noble and Mokwa, 1999). Marketing strategies only results in better returns for a company when they are implemented successfully (Bonoma, 1984). Nevertheless, the nature of implementation and the reasons for its success or failure are understood badly. In contrast to the wide study of the formulation of strategies (Anderson 1982; Day and Wensley 1983; Wind and Robertson 1983), little attention has been given to implementation of the strategy. Furthermore, little is known about the factors affecting managers with implementation responsibilities. A company partners, and customers (Webster, 1992), marketing managers are important facilitators of strategy implementation.

However, it is after the setting marketing objectives, strategic marketing analysis and strategic decision making stages that most managers relax. They assume that all the hard work has been completed and what remains is an activity that can be absorbed in the systems that the organisation may have put in place to deal with routine issues. This is invalid and should always be discouraged. Ever since the early practice of strategy in the military, this has been a recurrent downside of strategies that looked perfect on paper.

The implementation and control process can be divided into three major components:

- Design and implementation;
- Developing tactics for implementation;
- Control of the process.

2.7.1 Design and Implementation:

Effective strategic decision-making is loaded with many downsides which may not be easily apparent when the process has been broken down and represented sequentially. In reality, not all information required for a particular step of the process to be undertaken is available when required. Goal definition is an exercise that many business executives pay only lip service to and are not ready to make the time for assessing the progress of the company to establish if it is truly following the right course. Even for companies that succeed in putting down detailed strategic plans, the task of implementation can become so complicated as to be late until the next crisis breaks out (Kotler 1997; Piercy and Morgan 1994; Piercy 1997).

The reason for this situation is caused by several factors. It could be the case that the culture of the company is that any perceived change is opposed either directly or indirectly. The politics in some companies leads to the attendance of dummy heads who do not wield real power and authority and progress is impossible if the true power brokers are not keen on it. Some companies lack the software in terms of systems and procedures necessary for the programmes to be implemented. In some situations, the managers or staff responsible for implementing particular programmes are also tied down by the routine duties that their office requires and

thus cannot devote the time and the expertise required (Piercy 1997; Fusco 1997; Drazin and Howard 1984).

The most common reason for failure to implement programmes is probably the focus on the short term rather than long term outcomes of the business. Managers work under pressure to deliver (Sandy 1991). In this, they are guided by various daily, weekly and monthly targets, some of which carry a bonus if achieved. Many companies now encourage managers at the same level to compete with one another and this creates an atmosphere that is not conducive for strategic long term planning. In such a situation, the managers are often placed in a difficult position: to invest time and expertise to strategic planning and slip on their sales targets, or vice-versa (Glen *et al.*, 1991).

Those managers who participate actively in the process are in many cases reluctant to do so. This unwillingness often results in programmes that cannot result in any effective decision either in the long or even short term. It is not uncommon to find volumes of "Action Plans" distributed to various managers but hardly ever used because none of them had any confidence in the process. The programmes serve as evidence that the managers in the organisation are committed to the strategic decision making process but in reality, the volumes are never consulted. A good programme is ineffective if not properly circulated, accepted and acted upon by whichever staff will be involved in its implementation.

What does it take for a company to have effective strategic planning and decision-making? There must be commitment at all levels, but most especially at the top. This is because employees will often take the motivation of how to respond to a given organisational activity from those higher up. If the marketing manager or finance director does not demonstrate seriousness, commitment and enthusiasm about a particular project, the employees in the respective departments are likely to take it as a purely theoretical exercise. The united commitment is therefore a necessary if insubstantial input for the analysis, programme formulation, meaningful resource allocation and implementation of strategic planning. For a strategy to be truly corporate, it must reflect the shared opinions and expertise of a cross-section of employees. The responsibility of creating such an atmosphere is on the senior

management of the company. The mission, organisation structure and salary system go a long way in setting the trend in this direction.

2.7.2 Developing tactics for implementation

If the process of strategic decision-making is viewed as a tree, the strategic goals are the stem, the programmes represent branches and the tactics can be taken to reproduce the stalks on which the leaves and flowers are formed. Tactics are therefore more detailed, short-term courses of action that are to be undertaken. If a programme has been designed to last 5 years, the tactic could cover a period as short as 6 months. For this time frame, complicated plans and budgets are made for the distribution of the company's resources and targets set for even shorter periods (Glen *et al.*, 1991).

For example, assume that the strategy a company has embarked upon is that of market penetration. It has been decided that the focus of the programme is training of sales force, backed by market research. The budget process has recommended that an external market research firm will be commissioned to carry out the study, while the company's in-house training facility will be used to train the sales force at a cost of £5,000 per month. The entire programme has been projected to last 2 years.

The next task is to set specific sales targets for the sales force. Each salesperson may be allocated a geographical region. It may be decided that each customer's current and expected order levels, order frequency, delivery times and other such information is to be entered into the company's database. The salesperson may be required to provide information relating to number of sales calls made to a particular customer per week, what was achieved, the action point and the member of staff responsible for the action.

2.7.3 Control of the process

In setting tactics, it is important that the objectives are made as specific as possible. The relevant staff should be identified and the necessary information properly communicated to them. The process of control cannot be undertaken if responsibility cannot be narrowed down

to an individual, or if the parameter set as the measure of output is dependent on other variables beyond the individual's control. For example, if there is no access to the current sales levels of a customer in territory A, it will be difficult to assess the performance of the salesperson after one month. Similarly, if the salesperson is unable to travel to the customer's premises due to regulations in the logistics department, it will be misleading to conclude that the salesperson has not put in sufficient effort.

The standards and objectives set and agreed upon when developing tactics act as the parameters for control. As has been highlighted, care must be taken to make these standards not only measurable in real terms but also valid and representative of the situation as it is on the ground. If the targets are not achieved, the situation must be taken apart and effort made in establishing the causes for the shortfall. The process must be interactive and the sales force must be encouraged to express their views on how the system can be improved.

Strategic control can only be achieved if the whole decision-making process is viewed in terms of its combined parts (Nutt 1983; Kotler 1997; Piercy 1997). It may be the case that the control measures are ineffective due to some oversight in the resource commitment stage of the strategy. It is therefore crucial that the programme have a built-in early warning system to trace problems before they occur so that the overall effect on the programme can be minimised. This can be achieved by a number of means, including brainstorming, role playing, formal and informal interviews with current and potential customers, as well as detailed analysis by managers from different functional areas of the company (Glen *et al.*, 1991).

Many programmes fail at the implementation stage not because they are ill-conceived, but because the company lacks the systems that are necessary for strategic decisions to be made and implemented. Senior management has the responsibility to create an enabling environment for the successful implantation of programmes. This can be realised in the mission, company structure, reward system and culture. Success is a group effort and the best strategy will fail if members of the organisation have not accepted it. Tactics are a crucial component of the implementation process of strategic planning and decision-making. They are more detailed than the budget and the objectives set here also serve as the parameters for control. Close

customer contact, sensitivity, efficient systems and structures and flexibility are all critical factors for the success of any strategy.

2.8 Conclusion

It is difficult to find a hard and fast definition of marketing strategy whether from literature on the subject or from executives in the business arena who are familiar with the practice. Therefore, it is perhaps best to define marketing strategy by describing its components and taking other aspects of marketing strategy such as, marketing mix, the life cycle of product or market into consideration. Attempting to define it according to positioning is problematic as positioning theory itself is not very well conceptualised and explained. Nevertheless, the absence of a universal definition should not deter the study and improvement of the process as it is understood and practised by marketing executives.

Formulating marketing strategy is part and parcel of the corporate strategic planning of the company. It consists of four major stages, Setting Marketing Objectives; Strategic Marketing Analysis; Strategic Decision Making and Implementation & Control. Marketing strategy is arrived at after considerable analysis has been performed on the organisation's internal and external environment. The internal environment comprises strengths and weaknesses, capabilities and constraints. The purpose of this is to match them with the opportunities and threats that exist in the broader external environment in which the organisation operates.

Decision-making is a task not to be confined to a single office or department. It is a process that involves goal definition, programme formulation and resource commitment. Marketing strategy must not contradict the organisations goals and objectives as set out in the mission statement. Implementation and control of the strategy is a crucial aspect of the process and it can only take place if the organisation has instituted systems and structures along which the programme can run efficiently.

Although the process of formulating marketing strategy is illustrated as a series of interdependent activities, it is, in reality not so clear-cut. The processes represented

diagrammatically do not necessarily follow the prescribed pattern. Similarly, it is not often the case that company activities do not go according to laid down plans. Plans should be revisited, new, more appropriate, targets set and the various parameters of the strategy varied until the desired framework is found. Tools and models have been developed but these should only be used as an aid to decision-making and not a replacement of managerial discretion and effort. Strategies are useless if they cannot be implemented in such a way as to achieve organisational goals. They must therefore be specific, measurable and agreed upon by the various organisation members that are involved in their implementation.

Much of the literature on the subject of marketing strategy deals with these components in isolation and fails to relate them both conceptually and in practice. Specifically, the importance of strategic analysis is not well outlined in the literature, and yet it is a critical component of the formulation of a successful marketing strategy. Some of the literature gives prominence to aspects of strategic analysis, at the exclusion of the other complementary facets of it. For instance, some authors have failed to give enough attention to competitors, and yet competitor analysis can make or break the organisation. Those that recognise the importance of competitor analysis are thin on detail, leaving out the very important what, how, when, and with who questions that are crucial to the implementation of the prescribed models.

What this shows is that there is a gap in the literature on marketing strategy, and this is the lack of due consideration given to competitive intelligence. The second part of the thesis gives a detailed explanation of the concept of competitive intelligence. The second part also traces its evolution through literature and application, and presents a more realistic view of marketing strategy with competitive intelligence playing an important part.

Chapter Three: The Development of CI

3.1 Introduction

It has been highlighted in the marketing strategy chapter (chapter two) that, the formulation of marketing strategy includes ongoing assessments of internal strengths and weaknesses and external opportunities and threats. Groom and David (2001) pointed out that scholarly researchers have found that the majority of companies sufficiently audit their internal environment, but many lack the method to correctly and precisely assess the external environment. Many companies lack formal process for collecting, assimilating, and converting competitive information to intelligence that useful for marketing strategy formulation.

It is important to point out that, as the majority of the CI literature is mainly derived from the US, therefore this chapter will consider CI broadly and not the UK in particular. This part of the thesis deals with the literature available on the subject of CI as well as the related areas. It will also examine the reasons why CI is a requirement in modern businesses and how this has affected the development of both the theory and the application of CI. This will be from the standpoint of the apparent lack of understanding of CI as a management discipline. The part played by CI in business is also explored with particular emphasis on its link to marketing strategy.

In addition, this chapter highlights the requirements for implementing CI and how this can be done. This is followed by a discussion as to whether an independent unit is essential. Finally, the theory will be linked to practice in the examining the obstacles to be surmounted before CI can be successfully implemented in today's business world.

3.2 The development of competitive Intelligence literature

The sources of literature for CI were published material in the form of books and journal articles as well as electronic databases and articles on the Internet. With regard to books, the

review has shown that, 35 books in English have been published, five by Mcgonagle and Vella (1987, 1988, 1993, 1996, 1998), three were by Fuld (1985, 1988, 1994); two by Brenhardt (1993a, b) Kahaner (1996); one each by Tyson (1989), Gordon (1989), Smith (1989), Prescott (1989), Perry *et al.* (1992), Prescott and Gibbons (1993), Jaworski and Wee (1993), Combs and Moorhead (1993), Barndt (1994), Herring (1996), Kahaner (1996), Simon and Blixt (1996), Burwell (1999), Coburn (1999), Pollard (1999), Hussey and Jenster (1999), Shaker and Gembecki (1999), Cook and Cook (2000), Miller (2000), Vibert (2000), Fleisher and Blenkhorn (2001), Prescott and Miller (2001), West (2001), Fleisher and Bensoussan (2002), and Gordon (2002). From this list of books only two were written by UK authors (Pollard, 1999; and Hussey and Jenster 1999). Regarding the articles available on the subject, the earliest articles on CI are from the late 1970's and they are based on intelligence activities for espionage organisations. This pattern continues in the early 1980's with the issue of ethics coming into the limelight. Later articles incorporate the importance of technology and the establishment of effective CI network for collection, analysis, interpretation, storage and correct use of information. There is still a shortage of empirical studies to elucidate how CI is carried out in practice. Most of the case studies at hand are based on US companies, pointing to an obvious gap on the UK experience. An article in Business Research Guide no.4, 1989 proclaims itself as the prime mover of CI publicity in the UK.

Journal articles in the late 1980's and early 1990's demonstrate the coming of age of CI. They illustrate its compatibility with and influence on the other management activities of the organisation. This integration of CI and other related articles can be found in such publications as Harvard Business Review, Long Range Planning, Journal of Business Strategy, to mention a few. The US appears to be more advanced in this respect.

Results from the Internet and other electronic databases such as ABI Inform depend largely on the search engines used, the choice of keywords and when the information search is carried out. This is because the various search engines have differing domains and search options. Furthermore, some articles are posted on the Internet only after a certain number have been sold. To illustrate, using "Competitor" instead of "Competitive" will yield different results. Similarly, Searchbank and ABI Inform also gave different articles, both in quantity, focus and

depth. The other aspect to consider when using electronic sources is the links to other websites on similar subjects. CI was linked to such diverse subject areas as Business Intelligence, Data Mining, Benchmarking, Absorptive Capacity, Counterintelligence, and Knowledge Management.

3.3 The need for intelligence in today's business world

Ever since the introduction of the marketing concept to businesses, the customer has taken the forefront in companies' strategic plans and activities. This drive to satisfy customer needs has fed the whole range of business and investment activity. It has fuelled acquisitions and mergers, restructuring and divesting and innovation of products, services and production processes. This strategy was effective during the early stages of the industry life cycle. However, recent times have seen stagnation in many industries and market turbulence is almost a permanent feature of the market environment. Household names quickly spring up and vanish with astonishing regularity. Trends and fashions change faster than ever before. What is the implication of this? It basically translates into fierce competition. The strategy for survival is flexibility: the organisation's ability to reinvent itself within a very short time period. Moreover, since many companies have reached the same conclusion, the organisation must achieve this market agility faster, better and cheaper than its competitors. The failure to perform CI is rewarded with loss in the intra-industry war. More aspects within the global environment have to be systematically monitored, analysed, and acted upon including production locations and processes, distribution channels as well as organisational structures.

The business environment is extremely dynamic. The challenge is to be continuously on the look out for new opportunities and transforming the organisations' objectives, skills, resources and capabilities to rise to the opportunities presented. Organisations need to focus on the long term but act in the short term to ensure their future survival. That is why the identification of core competencies is even more crucial in today's business arena. Strategic transformation must be perceived as a continuous process. Is it possible? Yes, but also subject to many risks and dangers.

One of the temptations that managers must resist is the quick adoption of trendy techniques before the requirements for their successful implementation have been internalised. Even so, many have failed to realise competitive advantage from these activities because they must be accompanied by an attitude that is not easily inculcated.

Rather than be on the look out for new techniques, managers should focus instead on the fundamental tenets of business: identify customer needs; assess the market to determine if they are being adequately satisfied, establish a gap in the market and configure the organisation to rise to the challenge.

Success in business attracts competition. It is therefore necessary to also continuously monitor competitors' strategies and ensure that the organisation is not caught off guard by activities in the market.

3.4 Competitive Intelligence and Business Performance

The survival and successful performance of any company can be compared to that of a Formula One racing car, which operates within a very dangerous and sensitive environment, which is continuously changing (Parlby, 1997). Its success is dependant on much information and data, which is fed via sensors throughout the car and transmitted to the driver as well as the team in the pits. Their speed of response to this information and data determines how well the car performs in the race and whether it will win or not.

In the same context the survival, success and the company performance depends on the quality of its sensors, the intelligence fed and how well senior managers respond to this intelligence. It is impossible to drive a Formula one car with one single tool. There is a definite need for a mixture of intelligence whether it is immediate, such as speed per lap and lap coverage or less immediate such as race position, how many laps the race is, and how much fuel is required to get to the end. Moreover, it is important to have an idea of the weather forecast: if rain is

imminent will any time lost in changing the tyres be recouped in the form of better grip from the changed tyres.

A company is no less sensitive than a Formula One car. It is also operating in what is likely to be a hostile environment. Therefore the company should receive the right blend of intelligence on a timely basis to help improve its performance. They should ensure that they receive this intelligence at the correct time, as the risk is that, by the time the company is made aware of the problems it could already be too late. Thus the senior managers who are driving the company need the right intelligence at the right time. Without the intelligence needed they are driving the company as though they are blind. In many companies, the data available is old and incomplete. Therefore any decisions that are currently being made are being carried out using incomplete and outdated data.

Thus, the challenge for many companies is to be able to obtain the right intelligence at the right time, which enables the decision-makers to make the right decisions with regard to the overall vision and strategy. Therefore, CI can be used as a sensor, which could detect any problems in the business environment and obtain and transmit the relevant intelligence to the decision maker to help them to drive the company with complete vision.

Competitive intelligence, therefore, drives business performance - it enhances the bottom line - through intermediate consequence, by increasing market knowledge, internal relationships, and the quality of strategic plans. Indeed, CI serves ultimately as the most powerful agent for change in the modern business organisation.

3.5 The historical development of CI

The underlying concept of CI is not new. Its origins date back to the development of society when the fight for survival depended on outsmarting one's enemies, be it wild animals or hostile tribal groups. It is not difficult to see the central role of information in this endeavour, but only if used to the advantage of its holder.

3.5.1 History of competitive intelligence

Definitely, many activities linked with CI goes back to hundreds or even thousands of years; hence, Judas Iscariot was bribed into revealing Christ's location (Walle, 1999). In the past, however, the methods and tools of intelligence were not systemised and the people who applied this kind of work were not a characteristic group with exclusive methods and tradition. It was not until our time that CI become as a separate discipline in its own right. The work of William T. Kelley can be used to propose the origins of CI as a separate body. Specifically, Kelley's book Marketing Intelligence… (1965), introduced the subject of intelligence, while his important article in the Journal of Marketing (Kelley, 1968) provided a short and clear account which was easily available to management. Kelly's influential work was quickly followed up with Richard L. Pinkerton's significant five article series (Pinkerton, 1969) in Industrial Marketing entitled "How to develop a marketing intelligence system". These documents can be seen as representative of the revolutionary intelligence base of the topic. Although the general idea employed by intelligence stemmed mostly from marketing research, some early observers noted that the field transcended its roots (Walle, 1999). William T. Kelley, himself, expressed on the first page of his important effort "Marketing research is a toll of great value to the marketing intelligence worker. However, there is a significant difference" (Kelley, 1965). Having made this point, Kelly goes on to discuss the habits of spying and espionage that he comments go back thousands of years.

The second stage in the evolution of CI may best be discussed with reference to the work of Michael E. Porter. Porter's first book, Competitive Strategy: Techniques for Analysing Industries and Competitors (Porter, 1980), and his later book Competitive Advantage: Creating and Sustaining Superior Performance (Porter, 1985) were aimed at practitioners, not academics, and they drew the attention of executives to the fact that CI was more suited to business purposes. Even now, Porter's work above all provided the guidelines on how to process existing intelligence information in useful ways, and it tended to secretly suppose that intelligence information already existed. Nonetheless, the field of CI was enjoying the prestige of being a separate business function; as a result, it was gaining a reputation as an important organisational activity.

In the 1980s and 1990s, practitioners (while continuing to focus on the importance of the decision maker to use CI in a strategic way) have begun to think increasingly upon the tools of the area. Many thinkers have become identified with specific perspectives. Vella and McGonagle (1987) centre upon the use of computer. Writers like Tyson (1990) provide "how to" manuals which highlight the significance of Pinkerton's pioneering series of articles. Today, a wealth of useful publications are rising which help companies to practise activities related to intelligence more effectively; examples include Paula Bernstein's (1998) Finding Statistics Online and Carole Lane's (1998) Naked in Cyberspace: How to Find Personal Information On line. However, the efforts of Prescott (1989) and most importantly Leonard Fuld are possibly representative of the perception of the art of competitive intelligence at present time. Fuld's best work is his Competitive Intelligence: How to Get It, How to Use It (1985); it is an influential book which helps transform the field of CI and has become more refined and focused in recent years.

3.5.2 Analogies from the military

It is not an exaggeration to compare modern business to a battleground as the same basic rules generally apply and many strategies in use were originally developed for military warfare. In fact, "Intelligence" is more closely associated with the military where examples of its significance are common. It is not unusual to find prominent players in American business with a CIA or FBI background. For example, Jan P. Herring is vice - President of business planning and strategy at 'The Future Group', an international research and management consulting firm in Glastonbury CI. He is a professional intelligence officer with 20 years of government service in the CIA and a pioneer in the development of Business Intelligence Systems in the private sector (Herring, 1996).

Many business leaders are not ashamed to espouse the military ethos as a tool in business especially when it comes to developing strategy. However, the single most influential writer in this area is the often-quoted Sun Tzu who penned "Art of War" in the 4th Century B.C. He said: "…what enables the wise commander to strike and conquer, and achieve things beyond

the reach of ordinary men, is foreknowledge. Now this foreknowledge cannot be elicited from spirits; it cannot be obtained inductively from experience, nor by any deductive calculation. Knowledge of the enemy's dispositions can only be obtained from other men". His writings cover a wide-range of military strategies including the importance of espionage. Interestingly enough, this is where the analogy wears thin as CI is perfectly legal and not shrouded in secrecy or disingenuous activities. The initial challenge is to establish the gap that may exist between information already in the company's possession and that, which is lacking.

The Duke of Wellington could well have been describing the business of CI when he said "All the business of war, and indeed all the business of life is to endeavour to find out what you don't know from what you do (or) guessing at what is on the other side of the hill" (Bernhardt, 1993). Another important aspect of successful military operations is the simple notion of surprise: striking the enemy when or where they least expect it. As in the military, it has generally been the case in the past that surprises in business have been to the detriment of the attacked company that has usually been too astounded to put up a spirited fight. Used appropriately, CI diminishes surprise attacks as it enables the company to obtain competitor information. It can even be used to counter the competitors' attacks to their disadvantage.

The role of intelligence in military warfare is well documented. For instance, the defeat of Napoleon in the famous battle of Waterloo has been attributed to the duke of Wellington's use of a superior intelligence network. Similarly, it is no secret that NATO, and the US in particular, wage wars on the basis of information obtained by sophisticated intelligence systems backed by superior technology.

To take more recent history into account, it is worth considering the business activities among the large heavily capitalised industries of the 1950's. During this period, the emphasis in terms of marketing strategy was on production. The relative stability and destruction wreaked by the war drove companies to grow in size and geographical presence. As the large companies fought for dominance, there was a need to develop strategies to get to the market place faster and cheaper than competitors. Senior executives surrounded themselves with a handful of trusted colleagues for this purpose. An example is the General Electric Company (Barto,

1996), which in 1950 had a War Room designated for this purpose. Business intelligence and industrial espionage became more sophisticated with the East-West divide and the proliferation as well as fascination of military espionage that was typical of that era. However, as aforementioned, this was by no means the earliest evidence of the practice of CI even in its more informal use.

Today, CI has become the buzzword in business circles with the increasing awareness of its potential. It has gone from being a mysterious concept to being an essential element of business strategy. The danger is that this increasing awareness could reduce it to a passing fad and the high charges for CI could lead to its losing its long term good reputation. This is in light of increasing salaries earned by CI specialists, which have spiralled over the years [The results of the Society's 1997 salary survey indicate that salaries for CI professionals have risen by 21% since 1994. In the 1995 data, the average salary for a CI professional was $57,000 (all salaries are given in U.S. dollars). In the 1997 survey, the average was $69,000, an increase of 21 percent (the median 1997 salary was $63,000)] (SCIP, Salary Survey 1997). Companies are creating new departments solely for the purpose while others have gone so far as to enlist the services of retired espionage officials. Whether this will be profitable in the long run remains to be seen.

Debate as to when CI became integrated into business continues. What is clear is that it has been practised informally for years and has now become trendy for the modern businesses. Nevertheless, it is important to note that the benefits of CI can only be realised if it is part and parcel of the long-term business strategy of the company and at all levels, not just an independent arm. Furthermore, it should not be evaluated as a profit centre for immediate results but rather as a long-term investment, which may not necessarily pay dividends in the short term.

3.5.3 Competitive Intelligence from 70's – today

As has already been highlighted, CI in business has its roots in the US. As industries and markets became more defined, the struggle for dominance, or even survival in some cases,

required companies to become even more assertive in their businesses, especially in marketing. This competition, which intensified with the petroleum crisis of the 1970's, was traditionally among the big conglomerates in the US, and, to a lesser degree, Europe. However, the landscape changed in the 1980's when the Japanese invaded the markets. The Japanese presented a new variable in the configuration of business because they had an ethos that American businesses did not easily comprehend. As the Japanese made huge strides in hitherto well established industries like automotive and electronics, American business executives began to look for the secret of their success: how they combined efficiency and high quality at reasonable costs. This was perhaps the beginning of appreciation of CI, as it is known today by American business executives. Nevertheless, in the 1980's, a significant majority of companies did not have well developed integrated and properly co-ordinated CI departments. What was happening was that managers were beginning to discover gaps in their competitor databases and lacked the raw material with which to develop appropriate strategies for the Japanese onslaught. The Japanese were better prepared in this regard as they had studied American practices in detail and isolated their weaknesses be it in hidden costs, business culture or marketing. One of the reasons why the Japanese were successful in capturing market share within a relatively short period of time was thus their more effective use of CI. Indeed, a White House report during this period lamented this state of affairs, asserting that US businesses were losing an estimated $100 billion annually as a result of intelligence collected by foreign companies (Sawka 1996).

By the 1990's, significant proportions of companies were actively collecting information regarding customers and suppliers, but for many, it was information that they happened to possess through complaints or press reports. American companies were acknowledging the need for better CI in competitive activities, research and development of technologies and customers as well as supplier relations. The larger companies were more handicapped by the information gap than the smaller ones, so they increased their budget provisions for intelligence. Even then, many did not find their efforts and investments as worthwhile or effective, as they needed them to be.

An additional problem was the absence of established systems of information management and application. This was probably due to the shortage of trained CI practitioners at the time. Nonetheless, the few companies that had some form of CI believed themselves to be the only ones doing it and this misconception led to complacency on their part. These findings were corroborated by a Futures Group survey, which further revealed that 17% of the companies in the study believed that intelligence reports had never been used against them (The Future Group, 1997).

As we entered the millennium, there was evidence of the growing use of CI in American businesses. This can be seen in the literature available on the subject and the fact that there is now legislation on the wrong methods of collection and use of competitor information. A further indication of its coming of age has been in the growth in the membership of SCIP (Society of Competitive Intelligence Professionals), estimated at 40% each year (SCIP). Companies in such divers industries as pharmaceuticals, telecommunications, oil, aerospace, insurance and banking now consider CI part and parcel of their business activities.

3.6 Why companies need competitive intelligence now more than ever

Never before has the power of information been so important as today. As early as 1968, Drucker said that, "Knowledge has become the central economic resource" (Barnes, 1996). Indeed, knowledge is now at the cutting edge of competition and goes a long way in influential the very survival of companies. Information is important in identifying one's current and possible competitors, their strengths and weaknesses as well as the strategies they are likely to take on in the market place. All this information is not of much use if it is not in the hands of decision-makers able of handling it in the best possible way.

With customer orientation taking spotlight period in marketing, companies have based marketing policies and strategies on the customer and this has frequently resulted in profitability and growth. However, many have now realised that in order to compete successfully, it is not enough to know your customer completely. In addition, a complete understanding of their competitors' moves is a must if they are to survive today and compete

successfully tomorrow. This part of information is even more important as markets go on through the industry life cycles.

No company is protected, but the capability of a company in an established market to grow depends a lot on how it competes. In today's business world, current technology and fast growing markets have made speed significant. This is both in the development and marketing of products as well as the product life cycle. Companies must therefore be alert enough to respond quickly to changes in the market be it by adapting or inventing products and processes. This is where CI is important.

Although many companies have previously had some knowledge of their competitors, it has been collected for the sake of little more than interest or as part of a rarely used data bank. This knowledge has not always been exploited to its maximum possible and this practice appears to have been more widespread in the UK. What has changed now is that managers have a better understanding of the role of information in designing and implementing marketing strategies that will enable them gain and maintain market supremacy and leadership. The usual implication of this is the increase in the value of information and hence the developments of CI as an important management regulation. Globalisation and its effects on competition have increased this development (Scott, 1997).

Lary Kahaner (1996), gave a clear dispute why businesses need CI now more than ever, He argues that: If it is true that CI, both in idea and practice, is not new in business, it is equally true that it has become more and more important in the 21st Century. Although some companies made tries to set up CI as part of their competitive strategies in the 1980's, the efforts of many were often scattershot. As a result, most of them gave up the effort and only the best programs have endured.

For companies that made unenthusiastic or no tries at setting up a formal CI program, it can be carefully concluded that maybe it was not deemed important enough at the time. Thanks to the increased competitive pace, most UK companies are now starting to understand that the 1980s were relatively easy compared to the 2000s and the coming decades. Therefore, CI is a total

necessity because of actions and changes that occurred in the 1980s – 1990s and the situation shows no sign of shifting. For many reasons such as:

- **The pace of business is increasing rapidly.**

The pace of the daily business (and personal) lives is increasing noticeably. Companies have to think about how much faster they are likely to respond to queries from suppliers and customers. Moreover, with the globalisation of the world economy, fast advance of technology, and increasing customer expectations, the capability of the company to manage change has become a requirement for staying competitive (Pole, Madsen and Dishman, 2000). Bonthous, (1996) argued that, "companies of the future must develop unprecedented capabilities to learn, evolve themselves, and continuously improve their capabilities to add value in a fast changing world". He states that CI should support these companies needs. Therefore, the important to keeping pace with the rapidly changing of business is through the effective management and use of CI.

- **Information overload.**

Lary Kahaner (1996), argued that, the only thing worse than having too little information is having too much information. Today's managers of a usual activity will pride themselves on how much information they have. It comes through all the available channels: the post, hand-outs, phone, fax, CD-ROM, the internet, the intranet and databases IBM figures companies use less than 1% of their information for analysis (Brown, 2002). More than before, the present business generation proves the belief that information is power. Strategist agrees that information is the lifeblood of a company. Information brings power and forms the base for company growth and success. Information alone is just information. It has no obvious benefits. Information in its purest form is raw data that is free of context and meaning (Caudron, 1994). Information becomes intelligence when it is part of a planned, regular collection. Information pieces are gathered, filtered, distilled and analysed. The results then supply decision makers with choice, direction and knowledge (Morris, Ettkin and Helms, 2000). Thus, intelligence

and not just information alone, it motivates others to devise strategies, allocate assets, utilise resources and commit trade theft (Kahaner, 1996).

- **Increased global competition from new competitors.**

For the first time in history, companies are experiencing a global economy. Companies no longer think in terms of political borders when it comes to managing their businesses or selling their products. Industrialised countries are building facilities all over the world, and not just in less industrialised locations as before, but even in other industrialised countries. Japanese and German automakers now have plants in North America. Recently many European companies have plants in Asia. It is no longer simply a matter of finding cheap labour as in the past. Even-Shosan (2002) argued that, as world competition enters the 21st century, companies must seek new opportunities in foreign countries.

This inclination is growing as world and regional trade agreements such as WTO (World Trade Organisation) and the European Union, and NAFTA (North American Free Trade Agreement) become institutionalised. As the failed Seattle 1999 talks demonstrated, gone is the perception that the rest of the world are by-standards in WTO negotiations which are carried out by Government ministers and other technocrats. Countries such as Korea, China, Indonesia, and Brazil that were never world economic players in the past are now part of the global economy. That China's application to join the WTO is finally being considered goes a long way in bearing this up. For companies, it means that competition can come from any country. CI can help identify new and emerging competitors.

- **Existing competition is becoming more aggressive.**

World growth has slowed, and many companies are finding that the only way to growth is by taking market share from the competition (Caudron, 1994). Pressures from competitors, and changing customers' needs required companies to constantly evaluate and change their strategic goals (Ma Hao, 2000; McCvily and McCabe, 2000; Inkpen, 2000; Groom and David,

2001). Therefore, CI has become more important in providing companies the opportunity to stay ahead of competition. During the time of economic growth, companies were providing with plenty loose resources to penetrate the market. The additional resources of the companies enable them some margins of error for failure of their products, but these tend to reduce during periods of uncertainty (Wee, 2001). Thus, companies are more unwilling to take business risks and attempt to increase the chance of right decisions in the market as there is much less room for errors due to their companies limited resources. Today managers need to know and understand their business and markets for the strategic formulation to be effective. While the past experience could be helpful to the managers in the understanding of the factors which influence successful competitive practices, much of this knowledge exist as untested assumptions as to their validity and usefulness. This not only makes the strategic planning and formulation to be very difficult, it also become more like a guessing game. Therefore, the role of CI can not be underestimated, particularly in times of doubt and it encourage managers to take closer look at what constitutes good CI and how it can be used to help companies to cope in difficult situations.

- **Political changes affect us quickly and forcefully.**

Never before in history has political change been so huge or had such a far reaching impact to affect our lives. The destruction of the Berlin Wall, a coup in a Caribbean nation, or the signing of a war or peace accord in the Middle East can change the face of business overnight. Unexpectedly, there are new competitors and new markets.

As it been argued by Lary Kahaner (1996), managers have to look at the deregulation of businesses such as telecommunications, airlines, and electric utilities. Within a few years, businesses that never existed before are operating. Electric utilities used to be government-sanctioned monopolies. No longer. There are positive opportunities for some and losses for others. Therefore, CI can keep companies informed of political changes that affect their business.

3.7 The Environment of Competitive Intelligence

3.7.1 Definitions

The discipline may be relatively new in academic circles but it has already gained a wide range of definitions. As many of these stem from the original meaning of "intelligence". Intelligence, from the Latin intelligence, means "the ability to learn or understand or to deal with new or trying situation…apply knowledge to manipulate one's environment" (MerriamWebster's Collegiate Dictionary, 1993). Siegel (2000) argued that, intelligence is both process, a system for collecting and transforming information, and content, actionable knowledge that can be used to make business and marketing decisions.

Some definitions make a distinction between information, data and intelligence while others use the former two words interchangeably. They argue that data is no more than scattered bits of news that if organised becomes information. It is only when this is refined, analysed or processed further and used in decision-making at some level, that it becomes intelligence. After defining intelligence, it is important to understand what is CI.

The Society of Competitive Intelligence Professionals (SCIP) definition of competitive intelligence seemed to be a good place to begin,

"Competitive intelligence (CI) is the process of monitoring the competitive environment. CI enables senior managers in companies of all sizes to make informed decisions about everything from marketing, R&D, and investing tactics to long-term business strategies. Effective CI is a continuous process involving the legal and ethical collection of information, analysis that doesn't avoid unwelcome conclusions, and controlled dissemination of actionable intelligence to decision makers" (The Society of Competitive Intelligence Professionals, What is CI, 2002).

Cottrill (1998) suggested that Gilad (1988) offer a more pragmatic definition of CI,

"CI is not about money or egos" he says, "but first and foremost about fighting blind spots in one's view of how markets work, what customers want, what competitors are doing, and where the future lies".

Wright and Pickton (1998a, b, 2002), defines CI as: "*competitive intelligence is the strategic process of identifying, understanding and using of Critical Success Factors*".

The very vague definition of CI given by Shaker and Gembecki (1999), *"Competitive Intelligence is intelligence specifically adapted to the commercial world. It is a systematic, ongoing business process to ethically and legally gather intelligence on targets such as customers, competitors, adversaries, personnel, technologies, and the total business environment. It is provided by any and all sources. Once acquired, the objective is to disseminate tactical and strategic CI to decision-makers at all levels in a visually effective, timely, and secure manner".*

More precise definitions of CI incorporate the idea of the environment in which the organisation operates its strengths and weaknesses of competitors. CI is also linked to matters of perception of business in general and markets, competitors and clients in particular. Others go so far as to claim that it is a philosophy and appear to infer that it is the art of sifting information for the company's benefit. However, as CI is still in its early stages of development, it has not yet obtained a hard and fast definition. It is most unlikely that this will happen in the near future because its influence will continue to reach even more aspects related not only to business but also to other activities as well.

3.7.2 Related subjects

As mentioned earlier, there are several concepts that have come to be associated with or synonymous to CI. The closest of these is Business Intelligence (BI). It has been defined as "Business intelligence refers to the type of granular information that line-of business managers seek as they analyse sales trends, customer buying habits and other key performance metrics of an organization" (McGeever, 2000).

Writers on the subject are not in agreement as to whether the two are the same. While some maintain that it is only a matter of terminology, others argue that BI covers a wider scope than CI. BI is sometimes taken to embrace market research and overall scanning of the external environment of the organisation and CI. What is clear is that, both BI and CI are carried out with the aim of achieving a better strategic fit in the business environment.

Benchmarking has also been associated with CI. It has been defined by McGonagle and Vella (1998) as "The art of finding out, in a perfectly legal and aboveboard way, how others do something better than you do – so you can imitate – and perhaps improve upon – their techniques". More formally, Fuld (1985) defines it " Benchmarking is the search for industry best practices that lead to superior performance". It is a relatively recent practice of attempting to measure one company against some stand, usually a competitor in the same industry who is known to be better at that particular activity. CI recognises that information on companies is only valid if information on the environment is also collected. This may relate to general economic situation, to trends in the particular industry or geographic area, to change in legislation or to developments in technology. This is where CI gains over benchmarking; benchmarking simply uses information on competitor performance; it fails to identify environmental factors that have significantly affected that performance (McGonagle and Vella, 1996). Also, CI differs from benchmarking in that the latter is more of historic in nature, while CI is dynamic and involves forecasting the responses of competitors, customers and suppliers alike.

Another related area is "Absorptive Capacity". Cohen and Levinthal (1990) define it as "The ability of a firm to recognise the value of new, external information, assimilate it, and apply it to commercial ends". The crux of the argument in this regard appears to be that information is useless if it is not integrated into the overall corporate strategy of the organisation, hence the term "absorptive". While CI is premised upon this, it involves not just the absorption of information but its effective use in achieving commercial value and gaining competitive advantage.

Counterintelligence has also been associated with CI. It has been defined by Brandt (1994) as "The protection of an organisation's own plans, actions, resources, and intelligence capabilities from the actions of another organisation's intelligence activities". But is CI and counterintelligence the same thing? The answer is no. The term counterintelligence describes the steps an organisation takes to protect information sought by "hostile" intelligence gatherers. One of the most effective counterintelligence measures is to define "trade secret" information relevant to the company and control its dissemination (Brandt, 1994).

Other subjects such as Data Mining and Knowledge Management are pre-cursors to CI and are concerned mainly with the management of information. As the term suggests, data mining is to do with finding the right information and using it for the right purpose, and this is closely related to knowledge management. The only difference seems to be that the latter is broader in outlook as it also encompasses the collection and proper storage of the data.

Taken together, all the above subjects build the operating environment of CI. The definitions may vary according to the time in which they were developed and the emphasis of businesses at the time. The common strand in all of them is to do with the use of information to improve the organisation in some way, be it by measuring against some standard or attracting more customers. The thrust of CI is in enabling the organisation achieved and maintains market dominance or leadership at a reasonable cost by the effective use of information. The emphasis is on quality and applicability rather than quantity.

3.7.3 Intelligence: Competitor Vs Competitive

When it comes to intelligence, electronic search engines treat these two words differently. Using InfotracSerchbank, Competitor Intelligence yielded 92 articles, while Competitive resulted in 461 more than four times as many. In contrast, the ABI/Inform Database (ProQuest), had 1019 articles for Competitive Intelligence (articles from 1982 to date) and only 27 for Competitor. According to this, the two are neither synonymous nor dissimilar. A recent senior executive of the European arm of SCIP disagreed with this view, arguing that it

was merely a matter of terminology. However, Miller (1996), Smith (1989), Wright and Pickton (1998, 2002) would disagree. Interesting, published sources continue the debate in a similar vein, thus failing to put forward an indisputable explanation.

This leaves researchers and scholars with little choice but to consider the various arguments and arrive at a preferred solution. One of these is to take CI as the broader of the two, embracing all activities necessary to establish the posture and strategies of competitors. It also includes information pertaining to suppliers and customers that combines to aid in decision-making. It is also important to emphasise that it is linked to strategy and thus incorporates both the external and internal aspects of the organisation: its strengths and weaknesses, resources and capabilities, customer trends, tastes and preferences as well as competitor activities both current and likely in future.

3.7.4 The Reality

As with many new business management practices, CI has had a number of "teething troubles". It is implicit in many application manuals and "How To" books that CI is now widely accepted in business circles in the UK and USA. The reality is that the implementation of CI has faced several barriers and challenges. Perhaps the first barrier that practitioners come against is the apathy at senior management level. Researches (Badr, 1998; Callow, 1998) indicate that while the majority have heard about CI, they did not fully understand what it entailed. Others confessed not to have any prior knowledge of CI, mistaking it for the latest sales jargon. CI competes with the numerous solicitations for advertisement and is thus evaluated primarily in terms of initial cost. This is an insurmountable barrier especially as the successful implementation of CI depends so much on management support. This apathy appears to be more common in the UK, but the findings in the US are generally in the same vein. For instance, in only 20% of the 103 pharmaceutical organisations surveyed did the respondents agree that top management as regards training and allocation of funds supported CI activities (Gilad, 1995). The biggest challenge for SCIP is therefore to increase awareness and to correct the current misconceptions of CI that are prevalent in the senior management circles.

A consequence of senior management apathy is an equally detached and disinterested staff. Most are too preoccupied with achieving the targets for their respective divisions that they are incapable of being enthused about any other work-related issue. This key groups because the CI practitioner will work with them and needs their support and encouragement to become integrated into the organisation. Only training and education can change this situation and companies such as BT and ICI have already instituted training and support programmes aimed at increasing the appreciation of the value of CI (Callow, 1998).

Another barrier to the wide application of the principles of CI is the difficulty in acquiring the relevant information. It takes skilled professionals who know the true value of information to collect it. Although it has been stated that most of the CI related data already exists in the organisation, staff must know what kind is required and what it is to be used for in order to dig it up.

Despite its benefits, CI still faces high barriers. These relate not only to apathy and ignorance but also problems of integration, accountability, financing and communication. Senior managers are apparently unwilling to make the necessary commitment and investment in time, finance and training to reap the benefits of CI.

As discussed in this chapter, CI has been derived from and applied to many disciplines as well as the business environment and as a result there are several concepts, which have been associated with or are synonymous to CI. This results in some confusion and myths surrounding the concept of CI and therefore it is important to disprove the myths and clarify the understanding of CI by defining the cycle of CI and highlighting the benefits of using CI. All these issues including the examination of the literature will be discussed in the next chapter.

Chapter Four: The Concept of CI

4.1 The Myths of Competitive Intelligence

The misconception that CI is synonymous with marketing research is a fairly common error. This mistake leads to complacency on the part of business executives who in undertaking marketing research believe that they have satisfied the demands of CI. Information collected for marketing research is deemed sufficient for use in strategic planning and generally for decision-making support. CI is not restricted to periodic research conducted by organisations with respect to their competitors, markets and customer preferences. CI is a continuous process, which involves not only collecting and analysis of data, but also integrating it into the day to day decisions making process of the organisation to create and sustain competitive advantage (Bergstrom, 1992).

The focus of marketing research tends to be on problems associated with the profitable marketing of a firm's product and services. The scope of CI is broader. CI is a valuable added concept that layers over the top of business development, market research and strategic planning. CI is done for the purpose of driving companies business decisions regarding marketing, products, prices, and marketing efforts in order to gain competitive advantage. And it must be a total effort, practiced on a continuing basis. This discipline is strongly linked with marketing research and uses many marketing research techniques suck as customer satisfaction surveys. But here's the difference. When a customer satisfaction survey is done on your own clients, that is market research, when it's done on a competitor's customers as well and the result compared and developed, then it's CI (Barto, 1996).

As marketing research and CI activities relate to the collection of market-related information, CI can some times be confused with market research. However the focus of marketing research tends to be on problems associated with the profitable marketing of a firm's product and services. According to Bernhardt (1994), CI is more focused on issues relating to R&D, finance and technical problems whereas market research is related to the profitable marketing

of a firms service and products. Unfortunately, CI is often associated with reactive competitor tracking and mindless collection of competitors' data (Gilad 1994). This myopic view has been embedded into the average corporate culture and "is out of touch with ... changing competitive reality"(Gilad 1994).

Marketing research is frequently an activity with a set budget, start and finish date. A typical market research project will start with designing data collection techniques, selecting target groups and end with analysis of the findings and reporting to senior executives. Marketing research is mainly concerned with gathering and analysing market information: products and services, prices, promotion and distribution. The intention of the exercise is to improve the company's market position as well as consumer satisfaction. CI, on the other hand, makes use of the same information but not just for the improvement of market performance, but for the overall competitive advantage of the organisation. CI also goes further to collect and analyse competitors' market information and supplier relations. The outcome of this pool of information is then thoroughly studied and developed into strategies that the organisation uses to gain a competitive edge in their market. Another major distinction between CI and Marketing Research is that while the latter is a one off exercise, CI is continuous. CI is more dynamic and seeks to be proactive where market research is reactive.

The difference between marketing research and CI is the difference between a flash bulb and a candle. Let's say you are dancing in the dark. Every 90 seconds you're allowed to set off a flash bulb. You can use those brief intervals of intense light to chart a course, but remember everybody else is moving, too. Hopefully they'll accommodate themselves roughly to your predictions. You may get bumped and you may stumble every so often, but you can dance along.

On the other hand, you can light a candle. It doesn't yield as much light, but it's a steady light. You are continually aware of the movement of other bodies. You can adjust your own course to the course of the others. The CI process is a kind of candle. It's no great flash on the immediate sate of things, but it provides continuous light as situations shift and change provided someone is watching the light (Badr, 1998).

The other myth has to do with people believing that CI is a *Scanning system*. Business organisations carry out environmental scanning in order to be aware of the actions of competitors and consumers. As the term suggests, this is usually no more than the collection of basic industry data, which is then stored in the company's database to be referred to and updated as and when the need arises.

CI has come to be mistakenly considered as a part of environmental scanning. While it is true that there is some similarity between the two, in reality, CI is much wider and more detailed. CI aims at forecasting competitors' actions, assessing their potential impact on the overall long-term strategy of the firm and formulating an appropriate course of action for the company.

There is also a perception among business executives that *"Competitive Intelligence is a bad investment"*. The argument here is that spending on CI has no clear measurable outcome. CI leads to more strategic decision making, but who can say if the same decisions would not have been reached even without the heavy investment in CI? It is claimed that there is no clear traceable linkage between sophisticated CI networks and more strategic decisions that improve the competitive advantage of the organisation. The dangers of this mentality are that it is based on the wrong assumption that data and intelligence are one and the same. It also assumes that competitors are easy to identify and their strategies are clear to all. Perhaps the biggest pitfall of this perception is that it engenders a "me-to" attitude where organisations merely copy or react to what their competitors are doing instead of being innovative.

Some writers on the subject have contended that organisations would benefit from CI if its focus were changed from competitors to customers. Dan Simpson (1997) argues that, companies that invest heavily on CI may just be wasting their money. Although it can improve the strategy development and implementation, there is no clear substantial connection between a large amount of CI work and decision making that impacts the future of a company. Simpson says that, this strategy has three pitfalls: it encourages copying rather than innovation, assumes that the competition is easily identifiable, and confuses data with intelligence.

Simpson points out that, 'Investment in CI would be more fruitful if effort was shifted from CI to customer intelligence as the companies goals are not to beat their competitors but to satisfy consumers better than anyone else does. This association, it is claimed, would make organisations achieve competitive advantage by striving to satisfy customers better than their competitors'.

Is it true that CI is a bad investment? It seems that Simpson 1997, does not understand what CI all about. The answer to this myth also lies in what organisations have to lose if they ignore the activities and strategies of their competitors. The global business environment is becoming more complex and therefore competition is becoming increasingly fierce. The gains from developing and integrating a CI network into the strategic decision-making process of any organisation regardless of size or industry cannot be over emphasised. The CI process is concerned not only with who the competitors are, but also what they are doing and what they are likely to do in the future. It also involves analysing the overall external business environment of the firm as well as the tastes, preferences and consumption patterns of the customers. CI therefore, relies on a pool of information on markets, competitors, customers and products to develop a competitive strategic that secures the success of the organisation both now and in the future. By utilising this information and transforming this information into intelligence, a firm can gain the competitive edge that could be the difference between survival and failure in today's highly competitive business environment.

There is also a myth about the *financial implications of undertaking CI*. This inaccurate view is most prevalent in small organisations. The problem of this cost focus is that it ignores the alternative costs of not having CI: missed opportunities, inappropriate competitive postures and sometimes collapse.

It is true that sophisticated computer software and other hi-tech systems are costly, but small companies do not have to invest extensively in this technology to benefit from CI. Smith (1989) outlines the advantages that smaller companies have, *'Although formalised CI systems using microcomputers appear, on the face of it, to be mainly appropriate in the corporate environment, small and medium-sized companies are probably better placed to install effective*

CI procedures. They normally have fewer competitors, and senior management will be more aware of the value and potential of Competitor Intelligence to the survival and growth of the company'.

It is possible for small companies to adopt less costly procedures and systems as they have comparatively fewer variables to take into consideration. This stems from the fact that smaller companies will typically have fewer or lower-calibre competitors and the decision-makers are more in touch with the day to day activities of the firm. They are therefore more attuned to the realities of the market place and can react faster than the larger companies.

An additional benefit for smaller companies is that the chief executives are more likely to provide the managerial support that is so crucial to the successful implementation of any business strategy. This personal concern of the senior executives implies that the CI practitioner is able to get the timely feedback and the whole process is likely to be better co-ordinated in smaller organisations. The overall significance of this is that smaller companies are better placed to use CI effectively and thereby gain a competitive edge in their respective industries and markets as a result. Ettorre (1995), further states the case for smaller companies using CI effectively,

'Smaller Companies are often more attuned to gathering and using CI effectively. They are leaner and "closer to the ground" often headed by an entrepreneur accustomed to keeping personally sharp about competitors. Ironically while these companies may lack money and personnel for a fancy CI network, the fact that the CEO and top managers act personally and continuously on intelligence gives them an incredible competitive edges'.

Nonetheless, this is not to limit the effective use of CI to small companies. The extra bureaucratic layers that companies naturally acquire as they grow can be an impediment to the smooth flow of information and this militates against the productive use of simple CI systems.

The other myth has to do with *"Spying"*. Business executives perceive CI as a series of mysterious secret operations and are thus unwilling to embark on it. Understandably, not many

are prepared to risk their businesses however poorly they are performing, for something illegal however promising it may be.

The misconception that CI is spying is widespread. The roots of this can be traced to the different cultures that exist in the own societies. For instance, a country like Israel, given its historical battle for survival and identity has led to a culture of suspicion and intrigue. While this is more common in military and political situations, it has also pervaded business. This is due in part to the military training that a large number of men are obliged to attend in partial fulfillment of their professional training and education. A similar situation is prevalent in Japan with ningen kankei, the social network of intelligence transfer which is viewed as an integral part of society. Japanese businesses regard CI as a competency and believe it be an active way of reaching global dominance (Gilad, 1995).

This has led to a development of sophisticated networks for intelligence transfer, which has in some cases overshadowed the reality of the situation. In addition, the wholesale adoption of techniques has exacerbated the misconception of CI as espionage.

In spite of this, there is still a considerable high incidence of corporate spying. In a 1995 survey of SCIP members in Alexandria, Virginia had a 35% positive response to questions about whether unethical practices still prevailed in CI. This is different from Economic Espionage activities, which are carried out almost at a global scale. Needless to say, there is limited information publicly available about it but there is substantial information to suggest that where spying activities were carried out by nations, it be now among global companies. Most of this is legal CI but there have been cases where the line has been crossed, with companies paying individuals or organisations to steal confidential information especially regarding new product development (Behar *et al.*, 1997). Others have resorted to hackers to break into the computer systems of competitors. Unless these incidents are highly publicised in the press, they circulate in small business circles as rumour that is hard to prove either way. However, it is estimated that in the US alone, thousands of such activities take place every year. For instance, the American Society for Industrial Security did a survey in 1996 and found that 1,300 companies had fallen victim of illegal espionage, estimating that there were

1,100 such incidents. The same survey put the value of stolen commercial information at $300 billion (Holstein, 1998). Moreover, reported incidents of economic espionage are increasing, up 323% between 1992 and 1995 (Firm, 1998). The White House of Science and Technology estimates that business espionage costs U.S. companies as much as $100 billion annually in lost sales (American Society for Industrial Security 1999; Sawka, 1996). The financial loss suffered by U.S businesses due to intellectual property theft could be as much as $250 billion annually (Swartwood and Heffernan, 1998).

Although CI has developed from an espionage background, it has since shaken off the association. CI techniques have raised many ethical questions and a distinct body of research has emerged addressing these ethical issues (examples are: Hallaq J H and Steinhorst K 1994; Schultz N, Collins A and Mcculloch M 1994; Jones W and Bryan, 1995). CI is now perfectly legal and the Society of Competitive Intelligence Professionals (SCIP) has an established codes of ethics. Anyone wishing to join the society must agree to stand by its tenets that expressly ban any misrepresentation or indulging in activities which are illegal from both the company and the authorities' point of view. SCIP greatly discourages the use of unethical means to obtain competitor information as this does a huge disservice to the reputation of CI. Most of this information is available using legal means and the expense is worthwhile as it leads to authenticated data, unlike that yielded through spying. Information that is not legally available can often be deduced if thoroughly examined and analysed by a CI professional. SCIP therefore encourages members to be prepared to build the bigger picture of the competitive arena from the little bits of information obtained by legal, ethical means.

Although SCIP claims its code draws ethical and legal boundaries to keep companies out of the "grey zone", there still appears to be a great temptation for some to engage in illegal activities or release false information about a competitor. Recently publicised cases highlight the severity of the situation: (a) Reuters Holdings PLC's subsidiary, Reuters Anaytical Inc, is currently under investigation for stealing proprietary data from its chief competitor, Bloomberg LP (Murray and King 1998), and (b) Volkswagen recently agreed to pay a $100 million in an out-of-court settlement to General Motors which alleged that Volkswagen had used documents pilfered by an ex General Motors executive to gain competitive advantage

(Fiora 1998). In another case Johnson & Johnson sent two employees to a Boehringer Mannheim in-house conference where they obtained highly valuable information. Boehringer Mannheim took Johnson & Johnson to court, accusing them of improper activities, including infiltrating company meetings (Fiora 1998). Such cases have resulted in some governments introducing laws against the theft of technology and trade secrets.

In the US, Congress passed the 1996 Economic Espionage Act which carries penalties of up to 15 years in jail and $10 million in fines (under which the Bloomberg case is being tried) and in the UK in October 1998.' the British Government passed a similar Act. According to SCIP, dubious activities thrive because authorities lack the inclination and proper laws to deal with the situation. However, before a generalisation can be made regarding the extent of the problem, similar surveys from different countries must be conducted and then comparisons can be made across the board. In addition, the following is a brief discussion of CI in a selection of European and Asian countries.

France: Economic espionage in France is the forte of the Directorate General of the External and the Directorate of Surveillance and Terrorism. The official mandates of these agencies are similar to those of the CIA and FBI, respectively. The French government, through these agencies, determines if the concerned companies will receive it (Schweizer, 1993). The Directorate of Surveillance and Terrorism mainly deals with internal spying activities and has been known to use such tactics as bugging communication equipment. Depending on the seriousness of the situation, communication monitoring can also be extended to airline companies. A commonly cited instance is the event in early 1970's where this agency opened suitcases, bribed officials and hired prostitutes in order to gain access to information on Air France flights between New York and Paris (Schweizer, 1993). This was one of the instances where the usually diplomatic close relations between these two states were overlooked. Analysts have gone so far as to suggest that the friendship between France and USA extends to all areas except technology and economics.

Japan: The U.S and Europe lag behind Asian countries in industrial intelligence gathering activities (Calof, 1998). Japan in particular is extremely zealous in collecting intelligence about operations of other countries economic enterprises. The Japanese government and businesses collaborate closely in information collection activities worldwide (Hendrick, 1996). The principal agencies concerned with economic espionage for Japan is the Japan External Trade Organisation (JETRO) and the Ministry of International Trade and Industry (MITI). With offices in over 60 countries, JETRO has a network in any country deemed strategically important. Its main function is to keep tabs on research and development in interest areas particularly electronics and automotive and related industries. The information so obtained is then disseminated to various Japanese trading companies. Japan takes industrial espionage as a key aspect of their economic growth and development. So important was the role of intelligence that the government in the 1950's initiated a programme whereby up to 10,000 Japanese businessmen were supported through subsidies to travel all over the world for the purpose of gathering information. Most of these invariably headed for the traditional technology capitals in Europe and USA, which accounted for up to 80% of the effort (Richter, 1995). On the domestic scene, the Public Security Investigation Agency is responsible for tracking the activities of American business activities to ensure that they do not obtain any information that may be detrimental to the competitive advantage of Japanese companies.

Germany: By far the most notorious economic espionage agency in Germany is the Federal Intelligence Service. With a computer facility outside Frankfurt, this agency was able to access the databases and computer networks of businesses and governments all over the world. Code named Project RAHAB, this system broke the code to various organisations particularly in the fields of telecommunications, optics, avionics and other high-tech industries (Madsen, 1993).

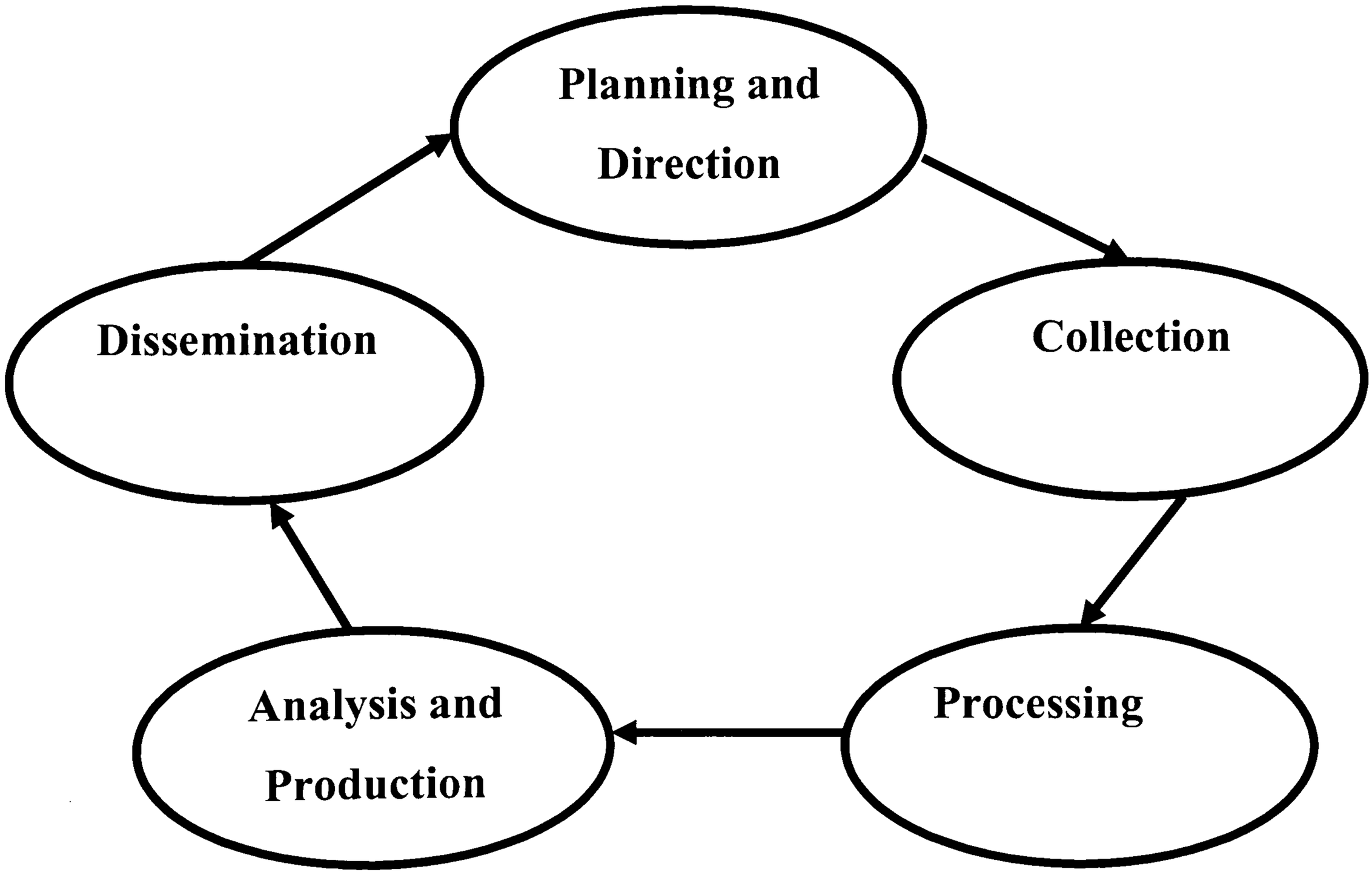
To conclude, finding out what the competition is doing, in other words, can go on at several levels. Some companies cross the legal lines between CI and industrial espionage, such as stealing confidential secrets. The objective of CI is not to steal a competitors trade secrets or other proprietary property, but rather to gather in a systematic, overt (i.e., legal) manner a wide range of information that when collated and analysed provides a fuller understanding of a

competitor firm's structure, culture, behaviour, capabilities and weaknesses (Sammon, 1984). The end product of CI is processed information of interest to managers about the present and future environment in which the business is operating (Greene, 1996).

4.2 The Competitive Intelligence Cycle:

CI is concerned with gathering a wide range of information including competitors' marketing strategies, their culture, skills, capabilities, strengths, opportunities, threats and weaknesses. Such a task calls for logical coherent system if the information so collected is to be processed and thus made actionable. The CI cycle thus covers the process from the actual planning of the CI effort, through its execution and on to the final product: recommendations that are actionable with the aim of improving the competitive posture of the company. There is no consensus on what steps should be taken to achieve this end, but the five steps described below form the pivotal aspects of the CI cycle (See Figure 4.1).

Figure 4.1 The Competitive Intelligence Cycle



1. *Planning and Direction*: Failing to plan is planning to fail. The foremost step in the CI cycle is thus need definition. What are the information requirements of the company? Which information is available already? How much more is needed? This allows the organisation to conceptualise and therefore implement the design parameters of the CI network it needs. It is important that the top management of the company be involved in this process as it ensures their total commitment and support. Properly carried out, the planning and direction phase of CI eliminates the possibility of spending resources on information that is not required and therefore not perceived by managers as strategically important (Mckenna, 1996).

2. *Collection*: Gathering the information that has been agreed by all parties concerned as necessary is the next logical step of the CI process. Sources include on-line databases, periodicals, newspapers, industry and trade publications, broadcasts, press releases, advertisement clips, to mention a few. Analysis of some published literature sources can also reveal the identities of key officials who may prove to be useful sources of information. These individuals can also corroborate other sources that have been used. Advances in technology and computer software in particular has also made it possible to access past information that can be relatively easily retrieved, analysed and processed (Sawka, 1996).

3. *Processing*: The processing stage of intelligence gathering is the critical stage where the data is recorded (Sammon, 1984; Attaway, 1998). Data collection may yield masses of information that must then be subjected to rigorous sorting, decrypting, de-coding and translation, among others. This step is more of a transition as it eases the analysis and production of the information.

4. *Analysis and Production*: This step is necessary to add value to the information that so far exists in its raw state. The basic task at this stage is to check the information for validity, reliability and relevance. The conversion of data to intelligence takes massive analysis to iron out contradictions, identify or establish trends. It is at this stage that specific linkages are made with the organisations needs as identified in the first stage. Specific points of action are drawn out and prepared in reports that managers and other users of the information can act upon. It is

important that in this process the CI practitioner does not lose sight of the fact that the end result is not for short-term tactical moves, but of long-term strategic importance.

5. *Dissemination*: Here the right kind of intelligence is made available to the relevant managers. To conserve confidentiality and prevent an information overload, it is advisable that the intelligence be distributed it on a need to know, although all the recipients are also provided with a distribution list. The timing of this stage is crucial to the success of the CI programme (Sutton, 1988; Gulliford, 1998). The nature of CI is such that it rapidly loses value if not acted upon at the right value. It would be useless to report to senior management that rivals were developing a new competing product if this information reached them after the product has been officially launched. Due to this, it is generally more preferable to managers to receive a timely answer that is 30% incomplete (Swaka, 1996). After managers digest and take action on this information, new gaps and information requirements are brought to light, triggering a new CI cycle.

4.3 What are the Benefits of CI Activities?

Any model or management practice that an organisation embarks upon must be premised on the advantages it offers. CI activities are beneficial first and foremost for the increased market knowledge that they convey to the organisation. This may be in terms of changes and trends of technology, consumer perceptions and preferences and distribution patterns. CI activities also enable the organisation to make better strategic decisions that ensure the current and future competitive edge of the organisation. Because it draws upon the stock of human capital, CI also presents an opportunity for networking and this facilitates relationship building, which is crucial for corporate image building.

4.3.1 Market Knowledge

Today's increasingly competitive business environment places tremendous pressure on companies. They need to thoroughly understand the major activities, policies and technology

that influence marketing activities. In addition, companies need to be able to predict or forecast what the next major development is and prepare to take advantage of it faster, cheaper and better than their competitors. This calls for a depth of understanding of the market landscape in terms of competitors, distribution channels and consumers. This knowledge must be coupled with that of trends, technology, innovation and the regulatory framework. This market awareness often acts as a mirror for the organisation. For instance, if CI activities yield information that competitors are developing a particular product, the organisation may then consider if that market is being served. In this way, CI becomes self-propagating. Similarly, if a competitor threats and weaknesses are correctly analysed, the organisation will be forced to look inwards to their own loopholes and assess why they have not taken advantage of an opportunity that revealed the competitors' strength. This reflection translates into a skills and capabilities audit that can only improve the organisation in the long-run. Furthermore, it creates an ethos of continuous improvement as new discoveries are made about the players in the market place (Diffenbach, 1983).

4.3.2 Quality Strategic Plans:

Strategic planning generally consists of finding a match between the skills and capabilities of the firm and the demands of the market. The problem is that the market place is dynamic and so plans have to shift with the changing requirements of the market. This is where most companies lose out as they are not ready to invest the time and effort necessary for this. To be precise, it is difficult to achieve strategic fit without actionable CI input. It is the information gathered by a continuous CI process that forms the raw material for strategic decisions that have a long-term impact in the performance of the company. Evidence suggests that CI activity leads to higher quality strategic plans (Ghoshal and Westney, 1991). Unfortunately, some organisations are not able to integrate CI into the planning process. One key reason appears to a lack of awareness of appropriate and relevant types of CI (Rhyne, 1985).

Some companies have failed to reap this benefit even with a CI system in place because they have not integrated it into the planning process. CI-initiated strategic plans therefore need not only the expert CI knowledge but also management support.

4.3.3 Product/Service Quality

Since businesses embraced the marketing concept, product and service quality has taken pre-eminence like never before. In recent years, much attention has been paid to product / service quality. It has focused on quality from the consumer's perspective and relative to other offerings in the market (Buzzell, 1985).

Indeed, much research has been done on whether product and service quality improve business performance in the long run. The common thread through most of the research is that the relationship is directly proportional. Although it may be obvious that high quality products and services are the result of high quality inputs, the connection is not always made. A high quality product or service depends upon a streamlined cross-functional relationship from consumer research, materials management, production, advertising and marketing. It is inevitable that when information from a competitor is gathered and analysed, the organisation benchmarks itself against a better player in the market. Aspects of the competitors' supplier relations, production technology, marketing and consumer response thus translate into relevant specific targets for the organisation. If this is acted upon, it cannot fail to result in improved products and service quality. Hence, It can be anticipated that CI activity would be directly linked to increased product/service quality (Jaworski and Wee, 1993).

4.3.4 Networking:

CI draws upon all the various departments of the organisation. In most companies, inter-departmental rivalry and competition means that information that could be beneficial to the company is not shared.

CI activity may also play a role in integrating an organisation's various corporate functions. The dissemination of intelligence can create a shared understanding of marketplace development, thereby creating a common basis for action (Jaworski and Wee, 1993). Research has shown that when firms disseminate marketplace information, employees are more committed to the organisation and have a greater esprit d'corps (Jaworski and Kohli, 1993).

Hence, evidence suggests that the intelligence process can help to improve relationships within the organisation.

This networking also extends to the external environment of the organisation. This is due to the fact that CI activities cannot proceed smoothly without input from various sources. These consist of consumer groups, researchers, distributors, advertising firms and industry analysts. In this way CI often facilitates cordial exchange amongst the various players as information is traded sometimes as an incentive. Distributors may disclose what the current consumer preferences are. This information is then provided to key suppliers who may also reveal new accounts or payment arrangements employed by rival companies. The organisation carrying out CI thus obtains not only important information, but also goodwill (Jaworski and Wee, 1993).

4.3.5 Business Performance:

The degree to which strategy making is an interpretative, creative, and innovative process has a strong bearing on how well a Strategic Business Unit is able to perform in the face of increased environment challenge and complexity (Miller, 1983). High-performing organisations tend to collect CI from many media when environmental uncertainty is high, and they do not have a "limited scanning pattern" (Daft, Sormunen, and Parks, 1988). It is possible to link the performance of a strategic business unit with its level of CI (Babbar and Rai, 1993). A business unit that collects and utilises CI is more likely to also become a high performer. On the contrary, business units that use what CI they can easily come across through the media are likely to be mediocre performers at best. This is because high performers will have an eye on the market, gathering information on a continuous basis and scanning many players simultaneously. They therefore limit their levels of uncertainty and are capable of taking advantage of changes in the competitive environment. However, it is erroneous to assume that this practice yields results instantly. CI is a culture that has to be embraced, learned and practised in order to be used regularly and efficiently. Furthermore, the benefits of using CI can accrue not only to the SBU but generally to the organisation as a whole.

4.3.6 Common Knowledge:

When it pervades an entire organisation, the CI culture enhances information exchange across inter-functional boundaries. Employees and managers share information thereby creating a pool of data and human capital for the organisation. It also improves their motivation and productivity. In the long-run this culture reduces the costs of obtaining information as each member of the organisation acts as its eyes and ears (Jaworski and Wee, 1993).

Moreover, the literature contains many examples of benefits that can be derived from CI. Among these is improved competitive edge (McCune, 1996; Westervelt, 1996). More particular benefits of CI include: uncovering business opportunities and problems that will enable proactive strategies (Ellis, 1993; Westervelt, 1996); providing the basis for continuous improvement (Babbar and Rai, 1993); shedding light on competitor strategies (Harkleroad, 1993; Westervelt, 1996); improving speed to markets and supporting rapid globalisation (Baatz, 1994; Ettorre, 1995); improving the probability of company survival (Westervelt, 1996); increasing business volume (Darling, 1996); providing better customer assessment (Darling, 1996); and aiding in the understanding of external influences (Sawka, 1996). Benefits such as these provide the basis for companies to better understanding the potential impact of the proposed changes and the means by which they can be used into the company's framework.

In conclusion, though myths regarding CI abound, it can be done legally and ethically. In spite of this, there is evidence to suggest that corporate spying still takes place, at times involving government establishments. The cases of France, Japan and Germany serve to illustrate this. CI is distinct from marketing research and market intelligence. This distinction is relevant for the proper conceptualisation and implementation of CI. Although CI is dynamic and application should be on a case-by-case basis, it is important to consider the key elements of the process. These are planning, information gathering, analysis and production and dissemination. Many mangers are sceptical of CI, claiming that it is a waste of time of time and money. This misconception prevents them from reaping the benefits of market knowledge, quality strategic plans, better products and services and networking.

4.4 The Role of Competitive Intelligence Systems

Today's business environment is characterised with such acute competition as never before. Companies must be adept at finding new markets quickly and serving them more effectively than their competitors (Lemos and Porto, 1998). Gordon, (1982) has stated, "By the modern rules of business, you must take business away from the competition to survive". These demands translate into a buzz of hyperactivity in the business executives' offices and the routine tasks grow daily, eventually crowding out the most important of all. This is how the significance of competitors' activities gets lost. As Sammon *et al*, (1984) state: "there are many wounded companies whose management kept its eyes on everything but the most dynamic variable in the strategic environment: competitors".

Companies that try to maintain this focus somehow fail to obtain the necessary information and manage it successfully (Reid, 1989). Most of the information is held usually in its raw form by the user departments. Market related data is thus kept by the marketing department to be consulted as and when the need arises. Similarly, information regarding production is stored in their department and not made available to any other. General corporate information is held in filing cabinets with bits that are considered "sensitive" placed under lock and key for the exclusive use of senior management. The problem comes to light when some information is required and no one remembers where it was stored. By the time it is dug out, compiled and analysed, the market has moved on and yet another business opportunity is lost.

Rather than learning from this experience and initiating an efficient system for information management, managers prefer to make decisions based on gut feeling or rule of thumb.

It is important to make the distinction between strategic CI and competitive data. Competitive data comprises all the raw information that may have been collected through market research or from secondary sources like press reports. It is often very time consuming to collect, difficult to analyse and impossible to present in a coherent way. Competitive information on the other hand is collected following prescribed criteria and is therefore relevant to the organisation. Rodriguez and King, (1977) noted the importance of strategic competitive

information rather than mere competitive data. They state that the primary elements of most companies' strategic competitive information activities involve *ad hoc* collection of data, and they argue that many of these *ad hoc* queries are time-consuming and expensive.

In recent years, the use of computer-based information systems in developing marketing strategy has obtained some consideration from the academic researchers. Decision support systems are been developed to help with the formulation of marketing strategy through the use of quantitative models and logical techniques (Wilson and McDonald, 1994; Arinze, 1990; Belardo *et al.*, 1994). Also, the efforts have been made to apply specialist systems in supporting marketing strategy by present area knowledge and intelligent advice (Alpar, 1991; Borch and Hartvigsen, 1991; McIvor *et al.*, 1992; Moutinho *et al.*, 1993; McDonald, 1989; Poh, 1994; Levy and Yoon, 1995; Duan and Burrell, 1997). However, in spite of these new efforts, existing computer-based support for marketing strategy formulation is in the major limited to the condition of related information from the working systems (Wilson and McDonald, 1994). Existing support systems are still rather limited in their hold up abilities (Amaravadi *et al.*, 1995). Nearly all of the reported support systems for marketing strategy formulation are either model or experimental (Duan and Burrell, 1995). Present support systems, in most instances, exist in basic stages of development (O'Brien *et al.*, 1995).

Therefore, in order to effectively support the marketing strategy formulation process and providing useful intelligence, the establishment of a Competitive Intelligence System (CIS) is usually the best option. This can be developed using the steps described below:

1. Preparing the organisation.
2. Identifying management needs.
3. Collecting the data.
4. Evaluating, analysing and processing the data to convert it into Intelligence information.
5. Communicating to the relevant decision-makers.

1. Preparing the organisation: The first step of the CIS activities is the recognition that CI is important and meaningful for the organisation (Herring, 1991). Many good business and

management techniques fail because they lack the support of organisation members. It usually boils down to poor and inadequate communication or none at all. It is important that organisation members are aware of the how and why a CI system is going to be introduced and how it affects them. Some of the factors militating against the systematic implementation of CI include complacency, bias, management arrogance and the lack of a customer-driven focus for the organisation. These factors are usually part and parcel of the organisational culture and hence difficult to alter. Evidence suggests that many organisations do not value this activity. Factors such as an internally driven culture (as compared to customer-driven), management arrogance, and a market-leading position can bias an organisation away from systematic CI activity. Some authors have argued that organisations can be so focused on customers that they can ignore the important role of competitors in the market (Day and Wensley, 1988).

2. Identifying management needs: CIS relies heavily on management support and will. Whereas it is at times easier for an outsider to quickly identify the problems a company is facing, it is often difficult for managers to do. The basic problem with CIS lies in recognising what the company's problems are and thereby defining the company's needs. The problem is that managers are too bogged down in running the organisation smoothly to pay sufficient attention to what they regard as time-wasting issues such as this.

The result is that most times a computer system designer is given only the basic information and expected to get on with designing a system that will work. In keeping with his/her training, a computer programmer will lay more emphasis on the technical aspects of the system: how much it can process, how safe it is and other such factors. When it is finally completed, the system is technically sound but of little relevance to the executives who are expected to use it. It has been commonly claimed that many information systems fail because they are designed by computer specialists with little understanding of information problems. The main reason for this focus on the user is a very practical one: evidence suggests that managers will simply not use systems which are designed from such a perspective (Piecy and Evans 1983).

A straightforward yet serious question needs to be asked of managers. Do they actually know what information they need to make decisions? Therefore, a system should be built in conjunction with the managers who will use it. They state that too many executives let system designers determine what information the managers are to receive. In other words, it is the systems designers who are determining the critical factors for success, i.e. what is necessary for running the business properly (Tricker, 1971; Rockhart, 1978).

3. Collecting data: As previously mentioned, it becomes easier to collect information if the requirements have been clearly set out. It's important to consider the internal sources such as company reports and other publications. Information will come from a variety of sources, both within the organisation and external to it. Sales representatives deal on a daily basis with customers and will hear what the competitors have been doing. This could alert management to impending enemy campaigns. R&D may come cross-new patents; purchasing may find out that a supplier is now supplying a competitor; market research can give feedback on the customer's perspective. These are just a few examples of predictable information sources (Brittin, 1991; Ghoshal and Kim, 1986).

***4. Evaluating and Processing the data into intelligence information*:** This involves the analysis of data and presenting it in a format that is easy to understand. It includes such routine tasks as looking for links, trends and important indicators as well as grouping similar bits of information under the same title, table or heading. Only after this is done is the company in possession of CI.

***5. Communication to key decision makers*:** The CIS is not complete unless the reports developed in the preceding section are communicated to the relevant decision makers. The specific format for presentation is not restricted to a report, but the crucial element is whether it is easily understandable and practical. Managers should be able to translate it into firm actions and incorporate it into their framework for strategic decision making. The CIS should be configured in such as a way as to facilitate the timely distribution of accurate, pertinent information (Attaway, 1999). If any of these aspects is missing, the quality and therefore value of the information is greatly undermined. One of the definitions of the CIS is that it should

distribute accurate, pertinent and timely information for use by marketing decision makers. All three factors are vital if the information is to have any value. The best, most complete and accurate information is simply a costly academic exercise if it does not reach the user in time for his/her needs, whether it be a report, a review or a decision (Fletcher and Donaghy, 1993). It is therefore important that the CIS has the right balance of theoretical and practical input, otherwise it will be useless to the managers. The key to a successful CIS is not only the organised collection, analysis and presentation of data to corporate decision makers, but the infusion of CI into an institution's strategic business planning process.

Few organisations have any formal system for CI. Rather, Porter (Ibid) argues, "Many companies do not collect information about competitors in a systematic fashion, but act on the basis of informal impressions, conjectures and intuition gained through the titbits of information about competitors every manager continually receives". Arguably, now (in the so – called information age) more than any time before, organisations should be taking CI very seriously. Unparalleled volumes of information are easily available now and ultimately all competitive advantage stems from an information advantage (Guilford, 1998).

4.5 Extent of CI Activity

4.5.1 Alternative Structures for CI

There are a number of methods of organising CI to incorporate it within the organisation. These include the following (Lenz and Engledow, 1986).

1. A free-standing unit;
2. A senior management committee;
3. A function-based CI effort;
4. An ad hoc, irregular effort;
5. A CI network with a single staff co-ordinator.

There is as yet no agreement amongst academicians and practitioners as to which of the methods is most productive. However, Some authors argue that there is a natural progression from irregular intelligence gathering to a more formal organisation unit (Fahey, L. and King, W., 1997). However, the evidence on the benefits of a free-standing unit are mixed. For example, one researcher's work suggested that the duration of free-standing units is highly uncertain (Diffenbach, J., 1983). Nevertheless, the success of a particular unit depends on a number of factors such as level of management support, level of training and expertise of the CI practitioner and the extent to which CI activity is integrated into the strategic decision making process of the organisation. A brief discussion of some of the structures follows below.

1.The free-standing unit: By far the most formal of all the structures, it comprises a director and one or several staff analysts. Together, they form a unit that is responsible for developing and implementing CI. The role of the director is multi-faceted. He is responsible for creating a positive image of CI throughout the organisation and winning support from the other key organisation members. His duty is to disseminate information not only to senior management but also the workforce. This is a key position and goes a long way in determining the acceptance and smooth implementation of CI in any organisation. Staff analysts are selected from key departments of the organisation. Apart from the expertise in their respective fields, the staff analyst must possess a keen awareness and interest in strategic and marketing issues as well as develop a holistic view of the entire organisation. As with any new initiative, it may take some time for the team to develop an effective way of working, eliminate their personal biases and function seamlessly as a team. Research suggests that this period may last up to 6 months but it may take even longer (Jaworski and Wee, 1993).

2. The Senior Management Committee: This is usually the structure applied by small or medium sized organisation who cannot comfortably bear the cost of hiring a full-time CI professional (Jaworski and Wee 1993).

This committee is typically made up of the CEO and departmental heads of key functional areas. The CEO has the same duties as the director in the self-standing unit. The regularity of

meetings is upon his discretion, as well as assigning duties to specific managers. The logical decision in task allocation is to keep it according to the functional areas represented or closely related.

Thus it is usually the case that much of the competitor identification and tracking is carried out by a representative of the marketing department, while quality comparisons and benchmarking is performed by laboratory technicians or chemists. Regular meetings help build cohesiveness in the group, but it is not always possible to overlook inter-departmental or indeed inter-personal rivalry that commonly exists. However, when they do work, these committees are useful in developing and sharing information and ideas that can translate into strategic decisions.

3. The function-based CI effort: Very similar to the Senior Management Committee structure, this structure relies on a department-based set up. Each key department has an official responsible for CI. According to the importance attached to the functional unit, some officials may play a more conspicuous role than others. The weakness of this structure is that it lacks the cross functional linkage that is crucial for the proper co-ordination of CI activity. It thus leads to bits of CI scattered in the various departments of the organisation (Jaworski and Wee 1993).

4. The CI network: This structure consists of a single member of staff to develop and implement all CI activity. This is often a trained CI professional who may be a member of staff or recruited from outside the organisation. This individual is responsible for the whole range of CI activity from developing the network to disseminating the information. In addition, he also has to perform the image building and management tasks that are part and parcel of the CI process. The individual practitioner is usually accorded the necessary management backing and support, but it is up to him to develop the contacts and an effective network among the various departments. Depending on the urgency of the issue at hand, this analyst has a range of possible presentation options from impromptu information releases to formal oral and written presentations. He may also be called upon from time to time to clarity or elaborate on a specific CI issue that may be of interest to management or the board. A key

weakness of this system is its heavy reliance on a single individual to perform CI tasks. It is not uncommon for managers to only pay lip service to supporting him, which can greatly undermine his performance.

5. The ad hoc CI structure: This is an informal arrangement that is undertaken only when it is perceived that some CI activity is necessary (Cartwright, Boughton and Miller, 1995). This often coincides with increased market presence of competitors, or the discovery of a new innovation. It typically follows a bureaucratic process where an official who comes across the information informs the senior management. The CEO then convenes a meeting where the issue is discussed and possible solutions found. This structure does not perceive of CI as an on-going process but rather as a reactionary measure in the face of competition. It is very ineffective structure because it is most likely that the information acted upon is accurate, inadequate and out of date (Jaworski and Wee 1993).

4.5.2 Financial and Personnel Support

Like any other management activity, CI needs adequate financial and personnel support to function efficiently. The CI activity funds are spent on such expenses as training, software development, travel, salaries and purchase of information. Depending on the structure adopted for the implementation of CI in an organisation, these funds may be pre-planned and allocated according to the budgeted amounts, or charged as expenses when they do arise. An organisation, which adopts the free-standing unit approach, is clearly well suited to budgets.

The personnel requirements for CI are variable. It is easier to establish the personnel involvement in CI in a freestanding structure, but more difficult in a CI network type. This is because although the CI effort is the direct responsibility of a single analyst, that individual relies on a wide network of monitors whose numbers may even reach 100 (Lenz and Engledow, 1986). Matters are more complicated by the fact that for these contacts, CI is not usually part of their job description.

Research on the personnel and financial support provided by companies sponsored by SCIP examined 95 large us businesses (Jaworski and Wee 1993). The study found that on average, the companies kept three full-time employees and one part- time employee. In addition, they also provided for one clerical officer. The same study further indicated that the average annual budget for CI activities was $550,000. Statistical analysis of the data showed that the median budget was $200,000. However, this may not correctly reflect the reality of the situation as many companies still rely on informal networks throughout the organisation.

4.6 Factors that foster CI Activity

For the application of CI to be properly integrated into any organisation, it requires tremendous support. Inherent in organisations are factors that may encourage the wide use of CI or instead hinder it. These include industry dynamics, organisational demographics and interpersonal emphasis.

4.6.1 Industry dynamics

This relates to forces that are prevalent in the market, including industry stability, intensity of competition and buyer behaviour. The stability of any industry is affected by many factors, the most important of which are market turbulence and inter-firm rivalry. Market turbulence is defined as the rate of change in an organisation's external environment (Miller and Friesen, 1983). It is reflected in the market by events such as changing tastes and preferences of customers, how fast new products are being introduced into the market and the marketing activities of key competitors. The more threatening or hostile the industry environment, the more organisations should attempt to develop multiple lines of inquiry into the environment (Wilensky, 1967). Research suggests that organisations' strategies, policies and operations are highly affected by turbulence in the industry (Kefalas, and Schoderbek, 1973). It therefore follows that organisation attempt to obtain a strategic fit between their internal operations and the external environment. Industries facing market turbulence are more in need of CI than those who's markets are relatively stable.

Intra-industry rivalry can be measured by the frequency and intensity of competition on the basis of price, advertising and the nature of tacit agreements about markets and distribution channels that are understood within the industry. The role of CI is more crucial in a highly charged competitive environment, prompted by the need to capture customers quickly and more efficiently than competitors. This is because such an environment is highly dynamic and subject to rapid change (Jaworski and Wee 1993). Decisions have to be made quickly and opportunities are lost by an apparently insignificant lapse in judgement or information management.

4.6.2 Organisational Demographics

This refers to the " physical" attributes of the organisation including how long it has been in existence, the nature of business, functional units and number of employees. All these factors can be taken together in the analysis or a small number can be selected and used as a sample. While CI is important for all companies, evidence suggests that the larger companies are more likely to have performed CI on a continuous basis and have established structures to facilitate this (Thomas, 1980). As a company grows, its CI requirements also increase in both quantity and complexity and there is more dependence on strategic decision making in their businesses (Mcgonagle and Vella, 1988). Fortune 500 companies have some arrangement, formal or informal, for the collection and analysis of CI information. The advancement in technology has presented many opportunities for companies to develop the software and support systems for the performance of CI. Unfortunately, this is an option not open to the smaller companies who cannot afford such levels of investment.

Large organisations need CI to cope with the increased uncertainties that accompany growth (Kimberly, and Evanisko, 1981). Moreover, as organisations grow in size and complexity, they begin to depend more on formal market intelligence and strategic planning to pursue their goals. Hence, their need for a systematic approach to CI increases concomitantly (King, and Cleland, 1974).

Research has found that "young" organisations tends to seek more information about their environment (Kimberly, and Milles, 1980). As organisations grow older, the environment may seem to be less threatening and so monitoring activities decrease. In addition, one study failed to find evidence of steady and unambiguous growth in CI activities over time in organisations (Engledow, and Lenz, 1985). Though counterarguments could be made, in general it is expected that younger organisations would be more active in pursuing CI than older organisations.

4.6.3 Interpersonal Emphasis

Interpersonal emphasis captures the extent of involvement of key executives in the CI process. Frequently, project champions play a crucial role in identifying and implementing strategic decisions (Runge, D. 1988). The role of the champion is essentially political and social - to support, to sell, to lead, to urge the use of the system, and to respond to and help overcome resistance to the change involved in its adoption The importance of such champions in any strategic project was expressed in several studies (Beath and Ives, 1988; Schon, 1963; McCosh, 1984). One study suggests that "executive champions" serve two main functions: (1) to provide the power and resources necessary to sustain the activity within the organisation and (2) to provide personal leadership (Engledow, and Lenz, 1985). Therefore, it expects competitive champions to play a significant role in fostering CI activities within organisations.

CI activity cannot be successfully implemented without the support and backing of top management. This must be consistently verbal and behavioural if the rest of the organisation members are to adjust themselves to the philosophy. The importance of this support also extends to the area of market orientation and it ensures that a balance is struck between how much focus is directed towards customers and competitors.

4.7 Measuring the Effectiveness of CI

4.7.1 The importance of measuring the effectiveness of CI

Peter Drucker is credited with the now famous quote, "What gets measured, get managed". Professor Drucker's focus, of course, is on the managed aspects of measurement. CI professionals must also focus on the fact that managers are not only the recipients of their CI, they are both the benefactors and the "measure" (Herring, 1996). CI should not be exempted from the rigour extended to other areas of management to develop a measurement criterion. It is the role of management not only to enhance CI but also determine how the effort should be measured. This will go a long way in enhancing how resources are allocated to the activity. However, as it is still a relatively new area, CI professionals must be intensely involved in this task. Moreover, measurement of results should also be applied to process of information gathering and production.

Jan P. Herring (1996), suggested many reasons for measuring the outcome of business activity. As CI should be an integral element of this, the same rationale is therefore relevant. The basic reasons are:

1. *Providing value*: The first question any organisation must ask is whether their activities provide value. This is the basis of demand and goods or services that are not perceived to add value are most likely to perform poorly if at all. CI must add value to the services of the organisation, otherwise it will be scrapped.

2. *Justifying investment*: The purpose of any investment is return. If managers think that the outcomes of their investment are not commensurate with the cost, the project will not be funded. CI is treated as an investment in this sense and the presence of a CI practitioner is judged by the same criteria.

3. *Revising resource allocation*: It is a fundamental economic problem that demands commonly outstrip available resources. Organisations face the same dilemmas with different projects and departments all competing for the same human and financial resources. Once resources are allocated to CI activity, management regularly reviews the allocation to determine whether it is still worth maintaining.

4.7.2 CI-related research

Over the past few years there have been several research toward found practical and effective ways of measuring CI effectiveness. One of these research was by Professor Prescott and Bhardwaj (1995). The 1995 article "Competitive Intelligence Practices: A Survey", contains a very useful section on the perceptions of practitioners regarding the value of competitive intelligence delivered to decision makers. CI practitioners gave the following as the reasons for their relative importance to the organisations they work for:

- Dissemination of valuable information;
- Initiating or improving an early warning system;
- Identifying new opportunities
- Identifying and exploiting competitors' weaknesses.
- Influencing decision making;
- Improving service quality.

These were highlighted as the most outstanding benefits CI practitioners rendered to the organisation. Also identified were attributes whose link with the overall performance of the organisation could not be easily traced. These were;

- Improved profitability and revenue;
- Better market positioning.

The research underscored the importance of CI practitioners to develop a means of assigning financial parameters like cost-saving and increase in revenue in evaluating their activities. By adopting such terminology, the CI activity can be brought into the family of the other market related activities of the organisation which are assessed by the same criteria. These measures can then be made broader to encompass such qualitative benefits as identifying new markets.

Further research was conducted by Simon and Blixt (1996) on a series of workshops that were run over a number of years and included in their published book *Navigating in a Sea of Change*. The issues addressed in the workshops were diverse but were all geared towards finding a feasible methodology of measuring CI activity. Several measures were suggested among which were the following:

- Industry benchmarking, to indicate business performance and success;
- Increase in orders from the existing client base;
- Increase in the number of clients;
- Timeliness, accuracy, relevance and standard;
- Accurate data analysis.

Other aspects covered by the workshops include measuring the impact of CI. In this regard, the following suggestions were compiled:

- Level of satisfaction of internal customers;
- Input to successful decision making;
- Gains in market share;
- Cost reductions.

One of the most important research was by The Future Group (1997) mainly to survey the general state of business intelligence in some 100 US organisation in 1997. Asked to rate the effectiveness of their CI systems from 1-10, one responded by awarding full marks; 4% assigned "9", and 10% "8". On average, most of the managers interviewed in this study were satisfied with their CI. The mean was 6.1.

The nature of the study was conceived along marketing lines and as such, the research methodology consisted mainly in telephone interviews. The sample was drawn from senior managers, CEO's, presidents and directors in such diverse industries as manufacturing, health, and financial services. Managers were asked to rate the effectiveness of CI activities in their organisations. The findings from this survey indicated that whereas 60% of the interviewees admitted to having some CI activity in their organisations, none had a coherent, logical means of measuring the effectiveness of the outcomes. The problem appears to have been related to the effort required in developing an appropriate system. The respondents expressed willingness to use one once it was developed.

Asked what they measured, the study found that 67% of the managers stated that CI activities were measured according to actions taken. This suggests that this is the most common measure of CI. The problem with this measure is that although it is widely used, it is very subjective. In addition, the link to CI is sometimes difficult to trace.

49% of the respondents agreed that changes were observed in market shares and/or meeting financial objectives. 48% indicated that leads had been generated as a result of CI activity. This suggests that CI is mainly used in sales and marketing. It is reasonable to assume that the information gathered relates to the industry and competitors, and could be used for tactical decision making.

44% of the senior mangers interviewed indicated that CI effectiveness was measured by new products that were developed in their own organisations as a result. This was regardless of the industry sector.

What conclusions can be drawn from these findings?

First of all, it is important to emphasise a lot more study is required in this area before these conclusions can be applied to the entire industry of CI world-wide. Nevertheless, they seem to suggest that both managers and practitioners of CI have a similar outlook on the scope and measurement of effectiveness of the activity. The valuable indicators are all financially

derived and include lead generation for sales and marketing, increasing market share, and profitability. What is needed is for CI practitioners to develop an understanding of why financial measures are important for managers. On the other hand, managers also should not be so obsessed about measurement as to overlook the practical qualitative benefits of CI like its impact on business decision making.

The role of CI intelligence in strategic business decision making cannot be overemphasised. Before the benefits of CI can be reaped, companies need to develop an ethos of CI. This can only be achieved if the importance of CI is disseminated throughout the organisation. The most effective means of establishing CI is by instituting a Competitive Intelligence System. There are 5 important steps in this endeavour: preparing the organisation, identifying management needs, collecting the data, and processing the data and communication of findings. Where it is implemented, the CI activity can take different organisational structures ranging from a self-standing unit to ad hoc arrangements. The specific structure depends upon a number of factors, such as size and scope of operations and budget allocations. Whether CI will develop and take root in any organisation depends on the interpersonal emphasis, organisational and industry dynamics. As regards effectiveness, insufficient research has been undertaken, and the findings cannot be applied to all CI activity all over the world. Further scientific research can be done on the basis of pilot studies performed on companies that have participated in CI research before. As its focus, the research should aim at developing and testing CI effectiveness.

4.8 Competitive Intelligence and Strategy Formulation

Strategic thinking itself is not a new concept, however its integration into the field strategic management is a newer concept, which began to evolve in the 20th Century. Since the 1960's the focus of scholars and theorists moved towards defining the complex application of strategic management in business. The business environment in recent decades has become subject to rapid change therefore it was inevitable that strategy made the natural progression into competition. The area of competitive strategy has caught the interest of Scholars and

managers alike and has prompted them to fully investigate this phenomenon in order to understand of competitive strategy. The efforts made to understand the complexity of this issue has had the effect of causing more confusion among scholars and managers. As a result some managers may be confused as to how effective strategies are made (for more information refer to Chapter Two: sections 2.1 and 2.2).

The basic strategic considerations remain the same whatever the company type, whether it is global, international or multinational. The rapid change in the business environment means that managers are required to monitor and evaluate their strategic position on a continuous basis. The answer to the question, "Where are we relative to our competitors?" depends to a large extent on how serious the managers observe the task of monitoring and evaluation, and how it is interpreted into the overall strategy of the organisation. The cycle of how managers make strategic decisions on competition strategy, gaining and sustaining competitive advantage has become even more critical in recent years (Bernhardt, 1993a).

A strategy is useless unless it can be implemented. At the end of the day, the true test of a strategy is in its application, and the focus of implementation is on managers. Indeed, in the words of George Yip (1992), Professor of business strategy and international marketing at University of California Los Angeles, "being able to develop and implement an effective global strategy is the acid test of a well managed company".

During the 1990's the business environment witnessed unprecedented and unpredictable economic, political, social and technological changes at a global level. In the past companies and industries found that it was much easier for them to deal with such changes as only limited markets were effected. In recent times this task has been made more difficult due to a more rapidly changing industry and complication in the area of globalisation (for more information refer to Chapter Three: section 3.5). These changes at a global level resulted in fundamental reforms within the entire competitive arena. The complexity and pace of this transformation continues to send shock waves in the way business is run.

The answer lies in the management of these changes. Strategic thinking and management has become a major challenge to managers for the 2000's and will continue to be in the foreseeable future. It is an acknowledged fact that successful companies are those that are able (and willing!) to set in motion a process of strategic transformation whereby the organisation "seeks to regain a sustainable competitive advantage by redefining the business objectives, creating new competencies and harnessing these capabilities to meet the new market opportunities" (Blumenthal B. and Haspeslagh P. 1992).

However it is confusing to generalise and assume that strategic thinking and management is the answer to all the problems, which organisations are facing today. The success of a company not only depends on the response to the changes but on the speed of response. The pace at which such a process is started by a company and the effectiveness with which that company is able to implement strategic transformation is an important factor of competitive strategy. Moreover the company must be able to sustain the process continuously. Overall, these factors if taken into consideration are likely to indicate a company's long-term prospects and help them to remain a viable commercial entity. Therefore the managers should continually monitor the changes in the business environment and adapt. CI is one tool, which could be helpful in providing the intelligence needed for the managers. CI has therefore become a key component of the strategic management process. It has become the means by which companies can measure the competitor objectives and strategies which are not always evident at first glance, and accordingly plan and formulate an suitable course of action.

Porter, in the influential work *Competitive Strategy* (1980), offers an insightful look into competitor analysis and its role in the formulation of competitive strategy. Porter explains that 'powerful competitor analysis is essential to answer such questions as '"Who should the company compete with in the industry, and with what series of actions?" "What does the competitor's strategic move mean and how seriously should the company take it?" and "What areas should the company avoid because the competitor's response could be too unpredictable?". In summery, the company is concerned with how their competitors are trying to beat them and therefore how they are going to defend themselves against such a competitor? It would be very difficult to answer these questions without intelligence, which is

gathered through CI activities. Therefore it is very difficult to formulate competitive strategy without CI.

At the same time, for the intelligence to be useful and of benefit to the company, the CI should be integrated in the company's overall business and marketing strategies. It is important to point out that as soon as managers receive intelligence they must know what actions they should and will take in order for the intelligence to be of benefit. Time is of the essence as the shelf life of intelligence is short. The task of managers is to use intelligence in a timely manner to create and sustain competitive advantage (by making decisions and taking actions). Failure to use the intelligence at the right time and in the right context could be costly for the company.

4.8.1 Competitive Intelligence and Competitive Strategy

A great deal has been written about why it is important for businesses not only to know, but also thoroughly understand the competitive environment in which they operate. Almost all business disciplines have emphasised this, but marketing and strategy are by far the most common. Writers have developed numerous models over the years to assist business executives in this task (for more information refer to Chapter Two: sections 2.3, 2.4, 2.5 and 2.6), but the business world appears to be generally unenthusiastic about adopting new techniques. The result is that the competitive knowledge has remained superficial.

One of the most prolific writers on the subject of strategy is Michael Porter. Several conceptual and analytical models for company, industry and even country analysis have been attributed to him. Most of these are results from extensive research carried out in the 1970's and 1980's. As the business world grows, the models change to adapt to the new environment and this implies that they cannot be totally out of date.

In his detailed work on competitive strategy, Porter argues that the purpose of strategy in general and competitive strategy in particular is to distinguish oneself from one's competitors.

It is increasingly unlikely for there to be a monopoly in any industry, therefore a firm must develop skills and capabilities that it can draw upon to position itself in the market and create value for its owners. Thus competitor analysis and market analysis are composite aspect of strategy formulation. Researchers also highlighted the importance of Macro-environmental analysis. The Five Forces and Generic Strategy are two models developed by Porter (for more information refer to Chapter Two: section 2.4).

Michael Porter's theories and recommendations regarding strategy are well known in the world of business and academia and his work has inspired numerous debates since the 1980's. Porters influential work on competition and strategy has formed the principal framework for the area of CI for the last two decades. The ideas of Leonard Fuld (1985), has given new momentum to how academics and managers perceive and use CI.

From Porter's work, there are three major points, which managers can apply to CI.

1. In regards to Porter's five forces model, managers should always understand and be aware of these forces in the market place, and be able to identify the continuous changes within these forces and also understand how these changes could affect and influence their position in the market place and also how the changes could influence their competitors.

2. Managers are required to rapidly reassess the company's strategy and plan of action in accordance with any changes in the competitive forces. Therefore it would be pointless understanding the changes in the competitive forces if there were no action taken upon it.

3. In the business environment there is only one fixed parameter- change. Therefore, a manager who fails to recognise these changes and act accordingly will definitely fail. Companies must always be one step ahead of their competitors in order to gain and maintain competitive advantage in the market.

These three points highlights the fact that CI and competitive strategy are interdependent. Bernhardt (1993a) argued that, CI and competitive strategy are the two twin elements of the

same dynamic system. Eventually a company's intelligence needs will relate directly to decisions that are effected by one or more competitive forces. For instance: what emerging competitors can company's expect to face in the future? Who are they, what are their strengths and weaknesses (threat of new entrants)?

How much is the competitor prepared to spend, and what plans do they have, to seize market share at our expense? How will they market their newest product offerings against ours, where will they launch, and when (intensity of rivalry)? What are the capabilities and objectives of low-price firms offering products, which compete with or may offer alternatives to ours (threat of substitutes)? How influential are our buyers? How is their awareness of supplier alternatives? What are their perceptions of us? Which of our competitors are they in contact with (bargaining power of buyers)? How vital is our business to our suppliers? Do they have alternative customer sources? Do these sources have any weaknesses, and how can we use our bargaining -power to change the balance in our favour (bargaining power of suppliers)? Only by examining these questions fully and in the necessary detail will the theories of competitive advantage be successfully transformed from the textbook to the boardroom and finally implemented to the market place.

4.8.2 Strategic and Planning

As mentioned previously, the strategy in any company exists at 3 levels namely corporate, business unit and functional level. In all levels, strategies are closely linked to one another. Therefore in order to generate a global view of CI and strategy, it is important to consider the role of CI at each level of strategy.

4.8.2.1 Corporate level

Ghoshal and Westney in the mid eighties carried out a detailed study which examined competitor analysis systems in there corporate organisations. Results of the study showed that, 'at corporate level the competitor analysis unit had two main agendas: Firstly, to pursue companies they believed to be corporate competitors, competing with the company in multiple

lines of business and secondly to function as a "centre of expertise", keeping abreast of the most effective and efficient tools of competitor analysis and disseminating them to analysts elsewhere in the organisation' (Ghoshal S. and Westney E., 1990).

The strategic perceptions of top corporate managers, country General Managers, and corporate planners, will obviously differ from those of their colleagues, including senior managers, at the business unit level. These managerial differences can cause considerable conflict and tension within the organisation, despite the fact that they all have the same mission set by the organisation, which requires them to work together to achieve the same goals and objectives. The importance is how successfully these differences in perspective can be overcome, and how well the managers can work together in the strategic management mix.

Corporate managers and planners are mainly worried with 'what businesses the corporation should be in and how the corporate office should manage the array of business units' (Porter, 1987). In other words, they are concerned with formulating and implementing strategies that make 'the corporate whole add up to more than the sum of its business unit parts' (Ibid).

At corporate level, the intelligence needed is primarily a function of the following five variables:

1. The expansion strategies of existing competitors and of companies that (possibly through acquisition) are likely to become rivals.

2. The strategic goals of competitors at corporate level. According to Hamel and Prahalad, where a company have strategic goals it is used 'consistently to guide resource allocations' (Hamel and Prahalad, 1990).

3. The core competencies of competitors. Hamel and Prahalad suggested that 'the most powerful way to prevail in global competition' is 'to be found in management's ability to consolidate corporate-wide technologies and production skills into competencies that empower individual businesses to adapt quickly to changing opportunities' (Hamel and

Prahalad, 1990; Ibid). Therefore it is vital to observe the extent of the success competitors achieve in building their core competencies, and in the way they integrate these competencies throughout their organisations.

A core competence is a competitive strength that meets three criteria:

- It is permanent: it 'provides potential access to a wide variety of markets' (Ibid).
- It is relevant: it makes 'a significant contribution to the perceived customer benefits of the end product' (Ibid).
- It is unique: it is difficult to reproduce.

4. Changes in the structure of each industry in which it operates (competitive forces), and in each market in which it competes.

5. Changes and trends in the environment, which may have a strategic influence on the corporate whole, or on any one of its parts. For example, companies operating in, or doing business with, some less developed countries' need in place systems which provide early warning of any politically-motivated issues that could risk company interests.

The intelligence required at corporate level is different from the intelligence needed by business units. This is especially true in the situation were the company is international, as the head firm exerts substantial control and influence. However, these needs are correspond to those of the business units and should fully integrate with them.

CI is used by corporate managers and planners to help create competitive strategies for each industry in which they are involved, or may be planning to enter in the near future. Furthermore, CI is being practiced by staff in corporate headquarters in order to help improve their understanding of how competitors assess their businesses and how they aim to improve and add value to them. Finally, CI at corporate level can be used not only to help establish corporate goals and performance measurements, but also 'to develop methods and techniques to attain those goals' (Webb, 1991).

4.8.2.2 Business Unit Level

The CI responsibilities fall mainly with managers at the business unit and functional level. The reason for this is due to the reality that it is at the business unit level where firms compete with each other and ultimately where the battles for growth, profit and position are won and lost. The result of this is that in companies CI activities are generally found in and report to business development or strategic planning groups (Bernhardt, 1993a).

Bearnhardt (1993a) has pointed out that CI is usually tied to specific strategic decisions. It has also been suggested by Egelhoff (1993) that companies who compete primarily through advanced strategy, 'management's focus needs to be more external than internal'. American and European companies normally 'attempt to manage competition through strategic repositioning or by creating a more unique strategy' (Ibid). This is the complete opposite of how Japanese companies choose to compete with one another, as they 'tend to compete against each other using very similar strategies' (Ibid), therefore, they tend to place more importance on excellent implementation.

Bearnhardt (1993a) has pointed out that the prominent concern of CI at this level is to ascertain the future plans and strategies of the company competitors. Thus, examination of the macroeconomics of the competitive environment is of a lesser importance. Bearnhardt (1993a) also argued, 'the focus is not even on market analysis. This is the principle duty of the market research departments and the reason for the existence of market research firms. It is not economic or environmental forecasting. Forecasts do not help business managers win this month's battles; nor, in practice, do they offer substantive support to the CEO and the top management team as they evaluate their strategic options'.

In order to outperform the competitors, it is necessary that senior managers should have up to date intelligence, which details the competitor's capabilities and indicates their possible intentions for the foreseeable future. The main aim of CI activities is to provide managers with intelligence in the form of analysis and assessment regarding the main changes in the competitive environment and how these changes might affect the company now and in the

future.

Despite the earlier claims, it cannot be suggested that having competitor analysis as an objective is equivalent to formulating strategy which is reactive only. The idea of CI is to know the competitor in order to defeat, not imitate, him.

4.8.2.3 Functional Level

If competitive strategy is initiated at the corporate level and implemented at the business unit level, it is tested at the functional level. Managers must always be aware of the likelihood of competitors actually meeting their strategic objectives. Therefore, they must be unrelenting in their quest of information that highlights the competitor's functional and tactical weaknesses while also indicating their full strengths.

Bearnhardt (1993a) has pointed out that, "it is important to ask the right questions at this stage. For instance, how well do their sales and promotional tactics fit their stated marketing objectives? If service is an important element of their positioning strategy are they successful in meeting customer expectations (firms should become customers of their competitors)? How well do their delivery and distribution systems work? Do their discount practices match their official discount policies? What is behind the new engineering techniques, which a competitor has reportedly introduced? New recruitment drives for managers, sales personnel and other specialists can alert firms to plans a competitor might have to gear up business activities, just as news of plant closures, or of major re-organisation' or 'restructuring' are often symptoms of deeper problems".

Intelligence at this level can be hard to obtain, particularly in areas such as costs and process. It is beneficial for the company if they can expose gaps in the competitor tactics or in key functional areas of competitor operations, as this may indicate weaknesses, which can be exploited at the strategic level.

Normally, success in business attracts competition. It is therefore essential to also continuously monitor competitors' strategies and make sure that the organisation is aware of all activities in the market (McGeever, 2000). Competitive strategy is fuelled by CI. The successful implementation of CI determines which companies are successful. Numerous models for external and internal analysis have been developed for industries and companies. These include Porter's Five Forces model, Generic Strategies and SWOT (for more information regarding external and internal analysis, refer to Chapter two, Sections: 2.5.1 and 2.5.2). If these methods are used in the correct manner, they can offer a framework for the company to establish what its competitive stance will be. Developing competitive strategy can be enhanced by relevant, timely, valuable information that only CI can provide.

4.9 Conclusion

The literature available on the subject of marketing strategies highlighted the importance of understanding the internal and external business environment when developing competitive strategies and indeed many methods and tools were discussed in order to understand the business environment. However, the literature available on the subject failed to address the fact that change in the business environment is continuous, therefore companies must be continuously monitoring these changes in the environment and to be able to act accordingly. One tool, which can be used to identify the continuous changes in the business environment, is CI. Therefore, it can be stated that CI is a key component of the strategic management process. It has become the tool by which companies can measure and examine the competitor objectives and strategies, which are often wrapped in secrecy. CI is therefore the basis upon which strategies are formulated.

The literature available on the subject of CI presented a general outline and description of the concept of CI, with most of the literature focusing on 'Why' companies need to use CI rather than 'How' they do or could use CI in the most effective way and how the most common problems could be overcome.

The majority of the literature available on CI is also based primarily on case studies and research projects carried out by SCIP, and concerning only US companies. Of the many case studies found, there were none on UK companies. The focus in the literature was on companies such as IBM, Motorola and Nutrasweet. Also the detail was primarily concerned with the success of the CI efforts, not on how any problems were overcome.

The literature made it appear that European companies in general and UK companies in particular, either have no experience or interest in CI, or they are reluctant to talk about it. It seems from the literature, that European companies are not sufficiently aware of CI, do not realise its importance and do not have a developed CI programme or unit in the company dynamics.

In addition, many scholars and researchers have highlighted the importance of using CI in strategy formulation. However, they failed to address how CI can be integrated into the strategy formulation in a clear, defined manner. This limitation has caused confusion for many managers in many companies who find it difficult to integrate CI into market strategy. Therefore, the lack of detail or guidelines available has prompted the need for this research in this area in a bid to partly fill in current gaps by examining current status of CI in European companies, identify the problems encountered in the practising of CI and the contribution of competitive intelligence (CI) to marketing strategy formulation (MSF). The next chapter will discuss the research methodology, which includes the problem statement, research design and many other research issues.

Chapter Five: Research Methodology

5.1 Introduction

This chapter outline the process and methodology used in this research. The objective of this chapter is to describe the steps taken and the methods used to collect the data for the study. It is divided into three main parts: Section 5.2 gives an overview of the basic principles of the research process; section 5.3 describes the research design in systematic approach, and section 5.4 draws a conclusion of the chapter.

Business research can be categorised into applied research and fundamental research. The applied research is aimed at solving a specific problem currently being experienced in a company, whereas the fundamental research has the more general objective of generating knowledge and understanding of phenomena and problems that commonly occur in various organisational setting, which consequently add or contribute to the general body of knowledge in a particular area of interest to the researcher (Sekaran, 1992).

The present research possesses the nature of fundamental research since it investigates in a general sense key issues underlying the relationship between CI and MSF, and seeks to add to the general body of knowledge of CI and marketing strategy. Given such a nature, the findings, also bear valuable implications for enhancing business practitioners' understanding of the important issues in using CI in formulating marketing strategy.

5.2 An Overview of Research Methods

In spite of the fact that research has come of age in academic circles, there is no precise definition agreed upon by a cross section of researchers. Howard and Sharp (1996) defined the word research as "seeking through *methodical* processes to add to one's own body of knowledge and, hopefully, to that of others, by the discovery of non-trivial facts and insights". According to Sekaran (1992), "an organised, systematic, data-based, *critical*, scientific inquiry

or investigation into a specific problem, undertaken with the objective of finding answers or solutions to it". Leedy (1997), further argued "research is not mere information gathering nor a mere transportation of facts from one location to another. Research is a procedure by which researcher attempt to find *systematically*, and with the support of demonstrable facts, the answer to a question or the resolution of the problem. This procedure is frequently called 'research methodology'".

From the definitions above there are three key words that we should understand. Firstly, methodical means that data must be obtained and analysed with the method that is inter-subjective. The important of inter-subjective is in the skill of a researcher to understand and evaluate the methods of others and conducts similar observations so as to validate empirical facts and conclusions (Frankfort-Nachmias and Nachmias, 1996).

Secondly, the word systematic means that research is not about a hit and miss collection of observations. The orderly and methodical approach to the collection of data is important. Research has to be designed so that it achieves the objectives set for in the first place (Wright L. T., Crimp M., 2000). Finally, in order to be critical, one must not merely accept things at face - value, but rather be prepared to test/examine or challenge them. This attitude should be obtained right through the process of analysing the data.

For a long period there has been debated in the social sciences about the most appropriate philosophical position from which methods should be derived, *positivism* and *post-positivism* (or *anti-positivism*). Trochim (2000), argued that, Positivism is a rejection of metaphysics. It is a position that holds that the goal of knowledge is simply to describe the phenomena that we experience. The purpose of science is simply to stick to what we can observe and measure. Knowledge of anything beyond that, a positivist would hold, is impossible. In a positivist view of the world, science was seen as the way to get at truth, to understand the world well enough so that we might predict and control it. The world and the universe were deterministic - they operated by laws of cause and effect that we could distinguish if we applied the unique approach of the scientific method. The positivist believed in *empiricism* - the idea that observation and measurement was the core of the scientific effort. The key approach of the

scientific method is the experiment, the attempt to discern natural laws through direct manipulation and observation.

Trochim (2000), also argued that, 'post-positivism is a wholesale rejection of the central tenets of positivism. A post-positivist might begin by recognising that the way scientists think and work and the way we think in our everyday life are not distinctly different. One of the most common forms of post-positivism is a philosophy called *critical realism*. A critical realist believes that there is a reality independent of our thinking about it that science can study. (This is in contrast with a *subjectivist* who would hold that there is no external reality - we're each making this all up!). Positivists were also realists. The difference is that the post-positivist critical realist recognises that all observation is fallible and has error and that all theory is revisable. In other words, the critical realist is *critical* of our ability to know reality with certainty. Where the positivist believed that the goal of science was to uncover the truth, the post-positivist critical realist believes that *the goal of science is to hold steadfastly to the goal of getting it right about reality, even though we can never achieve that goal*! Because all measurement is fallible, the post-positivist emphasises the importance of multiple measures and observations, each of which may possess different types of error, and the need to use *triangulation* across these multiple errorful sources to try to get a better bead on what's happening in reality. The post-positivist also believes that all observations are theory-laden and that scientists (and everyone else, for that matter) are inherently biased by their cultural experiences, worldviews, and so on. That is, post-positivism rejects the *relativist* idea of the *incommensurability* of different perspectives, the idea that we can never understand each other because we come from different experiences and cultures. Most post-positivists are *constructivists* who believe that we each construct our view of the world based on our perceptions of it. Because perception and observation is fallible, our constructions must be imperfect. So what is meant by *objectivity* in a post-positivist world? Positivists believed that objectivity was a characteristic that resided in the individual scientist. Scientists are responsible for putting aside their biases and beliefs and seeing the world as it 'really' is. Post-positivists reject the idea that any individual can see the world perfectly as it really is. We are all biased and all of our observations are affected (theory-laden). Our best hope for achieving objectivity is to triangulate across multiple fallible perspectives! Thus, objectivity is not the

characteristic of an individual; it is inherently a social phenomenon. It is what multiple individuals are trying to achieve when they criticise each other's work'. Moreover, positivism argue for researcher following the sequence of the hypothesis and the testing and confirmation or otherwise, of the hypothesis, while post-positivism provides guideline about how the researcher should conduct his endeavour, to focus on meaning, to try to understand what is happening, and to develop ideas through induction from data (Easterby-Smith et al., 1991; Henwood and Pidgeon, 1993).

Hammersley (1993), claims that within social research there are tension between research modelled on the practices of natural science and between ideas about distinctiveness of the social world and implications of this and how it should be studied. This tension is often presented as a choice between two conflicting paradigms and whilst the names of these paradigms often differ, there is considerable overlap in the content among the various accounts (Johnson, 19976; Schwartz & Jacobs, 1979). According to Hammersley (1993), these paradigms can be called 'naturalism' and 'positivism'. A positivistic focus favours a quantitative research approach whereas as the naturalistic paradigm promotes a qualitative approach, such as ethnography.

Therefore, the researcher has adopted both philosophical approaches of positivism and post – positivism (qualitative and quantitative) in order to examine and gain an in-depth understanding of the issues being studied. However, before discussing the research design, it is important to address in the following section, the development of the hypothesis and problem statement.

5.3 Hypotheses Development and Problem Statement

5.3.1 Hypotheses development

The starting point of any research study is the determination of a problem statement that captures the relationship between the variables under investigation in a logical manner. The research methodology is then built around these statements, and is designed to test if they hold

having been subjected to logical reasoning and a network of associations in the theoretical framework. This is the process of hypothesis development and testing. Sarantakos (1998), argues 'after variables are operationlised the researcher will proceed to formulate one or more hypotheses. The purpose of formulating hypotheses is to offer a clear framework and guide when collecting, analysing and interpreting the data. In many cases hypotheses serve as a testing tool of the relationships between variables. In this sense, hypothesis contains a possible solution to the research problem, and as such is expected to be verified or falsified (accepted or rejected) by the evidence gathered by the study.'

Researchers have emphasised various aspects of hypothesis development and testing depending on their areas of specialisation. According to Judd, Smith and Kidder, (1991), this process also includes hypothesised relations both among constructs and between constructs and observable indicators or variables that are associated with each construct.

According to Aaker, Kumar, Day, (1998), Hypothesis testing begins with an assumption, called a hypothesis, that is made about a population parameter. Then, data from a proper sample are collected, and the information gathered from the sample (sample statistic) is used to decide how likely it is that the hypothesis test question is thus a screening question. Empirical result should pass this test before the research spends much effort considering them further.

Hypotheses can be in any form except in the form of a question. Nevertheless, they have to meet a number of criteria, listed below. While some methodologists are convinced that all these criteria should be met, others methodologists require that only few of these requirements are necessary. In general, hypotheses are required (see for example, Baily, 1982; Becker, 1989; Selltiz et al., 1976) to demonstrate the following characteristic:

- To be empirically testable, that is, they can be empirically proven right or wrong;
- To be clear, specific and precise;
- To contain statements that are not contradictory;
- To describe variables or establish a relationship between variables.

- To describe one issue only. (Sarantakos, 1998)

Once the research question and the hypothesis have been formulated, the hypothesis has to be subjected 3 tests:

1. Testing research hypotheses,
2. Testing the validity of a claim, and
3. Testing decision-making situations, (Anderson *et al*, 1993).

A hypothesis can test both the relationship among variables and whether there are differences between groups with respect to any variables.

Hypotheses can be formulated in a:

- Descriptive or relational form; in the descriptive form they describe events; in the relational form they establish relations between variables.
- Directional, non-directional or null form, depending on whether or not they make a concrete suggestion about the research question.

'Directional hypotheses refer to the nature of the relationship between the variables and are generally said to be positive (if the cause and effect are in the same direction) or negative (if cause and effect are in opposite directions). Alternatively, a hypothesis can be described in terms of magnitude, where it postulates the nature of the difference between groups, that is to say, more than or less than' (Trochim, 2000).

Non-directional hypotheses postulate a relationship or difference but without offering any sign of its extent or direction. In other words, given the assumed significant relationship between two variables, the researcher may not be able to state whether the relationship would be positive or negative. Similarly, the researcher may not be able to state which group will be more and which less on a specific variable given the assumed differences between two groups on a variable. Non-directional hypotheses are formulated when either there is no basis for indicating the direction because the relationships or differences have not been previously

explored, or either there have been conflicting findings about the relationships on the variables in previous studies (Sekaran, 1992). In this study, the test type and directional form of the hypotheses have been chosen depending on the specific issues at hand.

5.3.2 Problem Statement

In the previous chapters, the researcher reviewed a series of issues. The analysis shows that:

Firstly: Marketing Strategy Formulation (MSF) is part and parcel of the corporate strategic planning of the organisation. It consists of four major stages, marketing objective; strategic analysis; strategic decision-making and implementation & control. Much of the literature on the marketing strategy deals with these components in isolation and fails to relate them both conceptually and in practice. Specifically, the importance of strategic analysis is not well outlined in the literature, and yet it is a critical component of the formulation of a successful marketing strategy. Some of the literature gives prominence to aspects of strategic analysis, at the exclusion of the other complementary facets of it. For instance, some authors have failed to give enough attention to competitors, and yet competitor analysis can make or break the organisation. Those that recognise the importance of competitor analysis are thin on detail, omitting the very important what, how, when, and with who questions that are crucial to the implementation of the prescribed models. Therefore, this shows that there is a gap in the literature on marketing strategy, and this is the lack of due consideration given to Competitive Intelligence.

Secondly: The literature on Competitive Intelligence (CI), presented a general outline and description of the subject matter. This is from the perspectives of both scholars and practitioners, who explain how to develop a competitive intelligence system and the resource commitments involved. Scholars go into the details of CI in different countries, contrasting the experiences of USA and Japan. It also highlights how CI can be utilised in the different kinds of departments and levels of an organisation, specifically corporate, business unit and functional. The literature also addressed the importance of measuring the effectiveness of CI activities. The literature available also gives a fair estimate of resource commitments, basing

primarily on the case studies and research projects carried out mainly by SCIP, again concerning US firms. Of the many case studies found, there were none on UK companies. The focus in the literature was on companies such as IBM, Motorola and Nutrasweet. Also the detail was primarily concerned with the success of the CI efforts, not on how any problems were overcome.

The literature made it appear that UK companies either has no experience or interest in CI, or that they are reluctant to talk about it. It seems from the literature, that European companies are not sufficiently aware of CI, do not realise its importance and do not have a developed CI programme or unit in the company dynamics.

The literature also shows that the linkage between "competitive intelligence" and "marketing strategy" is missing. Moreover, does a companies use competitive intelligence in their marketing strategy formulation? Does it have to come up with a completely different strategy? And most importantly **how does "competitive intelligence" integrate into "marketing strategy formulation"?** These and other such "operational" issues are analysed and examined in depth in the thesis.

To conclude, the completed literary review identified three main gaps in the currently available literature on CI. The books, articles and researches reviewed failed to cover the following areas adequately:

- What is the current status of competitive intelligence in European companies and especially UK?
- How does competitive intelligence contribute to marketing strategy formulation?
- Do European managers consider competitive intelligence to be a key component of marketing strategy formulation?

The main aims of this research will be to explore these areas. Therefore, the research objectives can be summarised as follow:

1. To establish the current status of competitive intelligence in European companies.
2. To examine the view of European senior managers towards competitive intelligence.
3. To investigate how competitive intelligence contribute to marketing strategy formulation.
4. To establish if managers, consider competitive intelligence to be a key component of marketing strategy formulation.

Therefore, the hypotheses that will be under test in this thesis are as follows:

The main Hypothesis, which is Hypothesis (1): Competitive intelligence (CI) is a Key component of marketing strategy formulation (MSF).

Further sub-hypotheses derived from this study are:

Hypothesis (2): There is no difference between UK and Other European CI managers with regard to the way they practice CI.

Hypothesis (3): There is no difference between UK and Other European CI managers with regard to whether or not CI is a key component of MSF.

5.4 Research Design

The research design is the blueprint or roadmap of how the research will be carried out. According to Kinnear and Taylor, (1996), a research design is the basic plan that guides the data collection and analysis phases of the research study. It is the framework that specifies the type of information to be collected, the sources of data, and the data collection procedure. A good design will make sure that the information gathered is consistent with the study objectives and that data are collected by accurate and economical procedures. There is no standard or idealised research design to guide the researcher, since many different designs may accomplish the same objective. Easterby-Smith, Thorpe, and Lowe (1991), argue that research design is "the overall configuration of a piece of research: what kind of evidence is gathered from where, and how such evidence is interpreted in order to provide good answers to the basic research question". The systematic structure of research design suggested by Sekaran, (1992) provides a logically impeccable approach that fits the purpose of this research (see Figure 5.1).

Research Process and Design (Source: Based on Sekaran, 1992)

Observation

The relationship between CI & marketing strategy formulation (MSF) in European Companies.

Preliminary Data Gathering

1. Literature review
2. Pilot interview
3. Database from early researchers

Problem Definition

1. What is the current status of CI in European companies?
2. How does CI contribute to the MSF?
3. Does managers, consider CI to be a central component of MSF.

Theoretical Framework

The understanding of the relationship between CI and MSF is crucial to the successful integration of CI to MSF. The understanding of this relationship is predominated by the way CI has been conducted, the techniques / tools that been used and how CI could contribute to MSF. All of these have an effect on the role of CI in MSF process.

Generation of Hypotheses

See Hypotheses Development (5.3)

Research Design

Data Collection Analysis, and Interpretation

Deduction

Hypotheses substantiated?

Problem Statement:
See Problem Definition 5.3

Purpose of the Study

1. Exploration
2.Descriptive
3. Hypothesis testing

Types of Investigation

Descriptive & Causal Methods

Research Interference

Minimal Interference

Study Setting

Non-contrived (Field Study)

Unite of Analysis

Individuals (UK and European CI managers)

Sampling Design

Non-probability Convenience & Purposive Sampling.

Time Horizon

Cross-Sectional

Data-collection Method

1. Interviews
2. Survey questionnaire

Data Analysis

1. Feel for Data (Descriptive)
2. Goodness of Data (Reliability and Validity)
3. Descriptive analysis.
4. Hypothesis testing (Inferential Statistics).

5.4.1 The purpose of the study

Research studies vary in a number of ways. According to the purpose they serve, they can be exploratory and (or) hypothesis-testing forms of research. This research study adopted exploratory and hypothesis forms. As discussed in earlier chapters, the current situation of both academic research and business calls for new efforts in investigating the relationship between CI and MSF and underlie the problems of CI and MSF. Since few studies have been conducted regarding the core issues at CI and MSF, a study was carried out in the UK and Europe. It was conducted by interviews with UK CI managers. A questionnaire was used in the interviews and tape or notes recorded comments made by the interviewees.

The pilot interviews sought to a) to establish the current status of CI managers in European companies; b) gather first-hand information to support formulation of the theoretical framework; C) to examine the view of European senior managers towards CI; d) identify potential areas of covert factors that underlie the key issues and that should be incorporated in the research instrument in the large scale survey; e) to investigate whether CI contribute to marketing strategy formulation.

The information gathered from the pilot study helped to screen the focus of the research and refine the design of the questionnaire. This helped the development of the research framework outlined in the previous chapter, and resulted in the finalised questionnaire used in the later survey.

Hypothesis – testing,

Testing of hypotheses is undertaken in a descriptive and logical fashion in qualitative studies but in a statistical – quantitative manner in quantitative studies (Sarantakos, 1998). Hypothesis testing is mainly used to explain the nature of certain relationships or to establish the differences between groups or independence of two or more factors in a situation. This research attempts to explain, through hypothesis testing, the relationship between the CI and

MSF, and identify differences between CI and marketing managers with regard to the way they practices CI.

5.4.2 The Unit of Analysis

One of the most important ideas in a research project is the unit of analysis. The Unit of analysis is the major body that researchers analysing in their studies. For instance, any of the following could be a unit of analysis:

- Individual
- Group
- Artefacts (books, photos, newspapers)
- Geographical (town, census tract, city)
- Social interactions (dyadic relations, divorces, arrests)

It is called the unit of analysis and not something else (like, the unit of sampling) because it is the analysis researchers do in their studies that determine what the unit is. The choice of the unit of analysis depends on the research questions that are being addressed and the level at which research results are to be generalised (Judd *et at*, 1991).

Researchers must also be aware of and avoid, throughout the research study, a *fallacy* that often arises in generalisation when the unit of analysis is not at the same level as the unit to which generalisation is sought. A *fallacy* is an error in reasoning, usually based on mistaken assumptions. Researchers are very familiar with all the ways they could go wrong, with the fallacies they are susceptible to. Trochim (2000), discussed two of the most important.

'The *ecological fallacy* occurs when you make conclusions about individuals based only on analyses of group data.

An *exception fallacy* is sort of the reverse of the ecological fallacy. It occurs when you reach a group conclusion on the basis of exceptional cases. This is the kind of fallacious reasoning that is at the core of a lot of sexism and racism.

Both of these fallacies point to some of the traps that exist in both research and everyday reasoning. They also point out how important it is that we do research. We need to determine empirically how individuals perform (not just rely on group averages). Similarly, we need to look at whether there are correlations between certain behaviours and certain groups'.

In this research individuals (i.e., UK and Other European CI managers) constitute the unit of analysis. This is because the research variables are defined to measure the attitudes and perceptions of individual managers with regard to key research issues, and the data were gathered from each individual whose response was treated as an individual data sources in the analyses (Sekaran, 1992; Trochim, 2000). Therefore, the implications and generalisation from the research results based on the statistical apply to the perceptional and attitudinal properties of individual managers.

5.4.3 Types of Questions and Investigation

It is useful to discuss types of questions that researchers can use, before we discuss types of investigation. There are three basic types of questions that researchers can address:

Descriptive: A descriptive study is that the researcher to be able to describe the characteristics of variables in a situation. In other words, when a study is designed mainly to describe what is going on or what exists.

Relational: When a research study is designed to look at the relationships between two or more variables. A relationship refers to the connection between two variables. When discuss types of relationships, it can mean that in at least two ways: the nature of the relationship or the pattern of the relationship.

Causal: The phrase causal means that the majority of social research is interested (at some point) in looking at cause-effect relationships. When a study is to establish whether one or more variables causes or effects one or more outcome variables.

The three questions types can viewed as cumulative. That is, a relational study believes that researcher can first describe (by measuring or observing) each of the variables that researcher is trying to relate. And, a causal study assumes that researcher describe both the cause and the effect variables and that researcher can shows that they are related to each other. Causal studies are probably the most demanding of the three.

In general, two types of investigation are found in social sciences – *correlational* versus *causal.* While all relationships tell about the correspondence between two variables, there is a special type of relationship that holds that the two variables are not only in correspondence, but that one *causes* the other. This is the key distinction between a simple *correlational relationship* and a *causal relationship* (Trochim, 2000). A correlational relationship simply says that two things perform in a synchronised manner. On other words, a study is described as correlational when the researcher does not intend to identify cause-effect relationships between constructs, but rather focuses on delineating the important variables that are associated with the problem (Sekaran, 1992). But knowing that two variables are correlated does not tell us whether one *causes* the other.

When it is necessary to show that one variable causes or determines the values of other variables, a causal research approach must be used. In a causal study, some variables may have to be manipulated and others controlled. In experimental studies, this is normally achieved in by random sampling. In social sciences, on the other hand, it is not always possible to manipulate and control some of the variables under study. This is because researchers may be discouraged or prevented from conducting controlled experiments because of difficulties resulting from social, political and ethical considerations (Frankfort-Nachmias and Nachmias, 1996). Descriptive research is not sufficient, for all it can show is that two variables are related or associated. Of course, evidence of a relationship or an association is useful; otherwise, we would have no basis for even inferring that causality might be present.

To go beyond this inference we must have reasonable proof that one variable preceded the other and that there were no other causal factors that could have accounted for the relationship (Aaker, Kumar, Day, 1998). For this research, therefore, descriptive and causal methods will be used to present the current status of CI in European companies and also, to investigate whether CI contribute to MSF.

5.4.4 Time Horizon

Time is an important element of any research design, and the most fundamental distinctions in research design nomenclature: *cross-sectional* versus *longitudinal* studies. A cross-sectional study is one that takes place at a single point in time. On the other hand, a longitudinal study is one that takes place over time – researcher has at least two (and often more) waves of measurement in a longitudinal design.

This research has taken cross-sectional approach, as it is not feasible to conduct a longitudinal study because of limits on time and recourses. Therefore, the survey for this research was carried out in UK and Europe during February and July 2002.

5.4.5 Researcher Interference

The extent of researcher interference is directly dependent on whether a causal or correlational study is undertaken. For a correlational study data is collected in the natural setting of the organisation with the researcher interfering minimally with the normal flow of events (Sekaran, 1992). For this correlational study, the researcher interference was kept to minimum and the survey was conducted in non-contrived settings. For instance, the survey of the larger sample of British and European CI managers who were practicing CI was conducted by administering the questionnaire by mail. While the survey of the smaller sample of British and European CI and marketing managers was conducted by the interviews in person in the respondents' offices or other pre-arranged venues (expects a few to whom the interview was

conducted by phone), the researcher only at the beginning of the interviews suggested the respondents refer to a direct counterpart in his/her working relationships in the CI and MSF, and listened for the comments about or beyond the questionnaire topics given by some respondents when completing the questionnaire.

5.4.6 Sampling Design

Sekaran, (1992), argues that, the basic objective of sampling is to select a sufficient number of elements from the population so that the properties and characteristics of the sample that are identified through studying the sample subjects can be generalised to the population.

There are two methods of sampling, *Probability Sampling (Random Sampling)* and *Nonprobability Sampling*. In many texts, the words probability sampling is used instead of random sampling, but the meaning is the same (Wright L. T., Crimp M., 2000). The probability sample is which the sample is drawn in such a way that each person in the population has a known (generally equal) probability of being included in the sample (Carter M. and Williamson D., 1996). There is a number of probability based sampling methods: *Simple random sampling; stratified random sampling; systematic random sampling; cluster random sampling;* and *multi-stage sampling*.

Simple random sampling is the core technique in sampling. The basic theory is built around the process, and it is the standard against which variants of sampling methodology are assessed for efficiency. The word random used in a statistical or sampling context means that the selection has been due to chance and chance alone (Wright L. T., Crimp M., 2000).

Stratified random sampling, also sometimes called *proportional* or *quota* random sampling, involves dividing your population into homogeneous subgroups and then taking a simple random sample in each subgroup. *Systematic random sampling,* this method is a modified form of simple random sampling. It involves selecting subjects from a population list in a systematic rather than a random way. A random start is used to choose the first person, and

then a fixed amount is skipped to get the next person, and so on. Whereas, *cluster sampling* like stratified sampling, investigates sub-population of the main population. The procedure therefore involves investigation only a small number of clusters from many clusters (Carter M. and Williamson D., 1996). When researcher combines sampling methods, it can be called this *multi-stage sampling* (Trochim, 2000).

The difference between nonprobability and probability sampling is that *nonprobability* sampling does not involve *random* selection and probability sampling does. Nonprobability sampling methods can be divided into two broad types: *Convenience sampling* and P*urposive sampling*. The *convenience sampling* is a very simple and straightforward approach, and it involves selecting items on the basis that they are accessible and easy to measure (Carter M. and Williamson D., 1996).

In *purposive sampling*, researchers sample with a *purpose* in mind. Researchers usually would have one or more specific predefined groups they are seeking. All of the methods that follow can be considered subcategories of purposive sampling methods. Researcher might sample for specific groups or types of people as in *modal instance, expert,* or *quota sampling.* Researchers might sample for diversity as in *heterogeneity sampling*.

Modal Instance sampling, in statistics, the *mode* is the most frequently occurring value in a distribution. In sampling, when researchers do a modal instance sample, they are sampling the most frequent case, or the "typical" case. Modal instance sampling is only sensible for informal sampling contexts. *Expert Sampling*, Expert sampling involves the assembling of a sample of persons with known or demonstrable experience and expertise in some area. Often, we convene such a sample under the auspices of a "panel of experts". *Quota Sampling*, in quota sampling, researchers select people nonrandomly according to some fixed quota. This is based on known proportion or quota of the population (Carter M. and Williamson D., 1996).

Heterogeneity Sampling, researchers sample for heterogeneity when they want to include all opinions or views, and they aren't concerned about representing these views proportionately. *Snowball Sampling*, in snowball sampling, researchers begin by identifying someone who

meets the criteria for inclusion in your study. Researchers then ask them to recommend others who they may know who also meet the criteria (Trochim, 2000).

In practice, most researchers engaged in social sciences studies, have preferred not to select random samples; instead, they advocated highly purposive or convenience sampling (with matched groups if possible) (Elder, 1976; Brislin and Baumgardner, 1971). Among the reasons that account for this option, convenience and economy is an important one that under certain circumstances may outweigh the advantages of using probability sampling; another reason is that in many cases the sampling population cannot be precisely defined or a list of the sampling population is unavailable (Frankfort-Nachmias and Nachmias, 1996). Moreover, the value of using convenience sampling has been well recognised as long as it serves the research purpose and notes are made of the characteristics of the subjects and environment which could potentially influence the results or their interpretation (Brislin and Baumgardner, 1971).

Regarding to this study, it is impossible to precisely define an exhaustive list of the total population of the individual managers involved with CI. For this reason sampling with randomisation and experimental control is not feasible for this research. In addition, it is known from early research experience and other studies that most managers (both in CI and marketing) tend to be sensitive to any inquiry about their business and are reluctant to give their personal opinions for various reasons. It was not possible to identify the entire population of European CI managers. The researcher attempted however to identify as many as possible CI managers. Therefore, it was an attempt at a census sample. The sample used for this research could be classed as 'purposive and convenience sample', but because of its completions it can be treated to a considerable extent as a random sample.

To overcome the barrier of a respondent not being aware of CI, the assumption was made that the members of Society of Competitive Intelligence Professionals (SCIP) in Europe would at least know about CI and are also likely to practise it. The idea behind the research is to provide a picture of CI and MSF in general and the use of SCIP members provided the opportunity to gain knowledge about CI across a range of industries and company sizes.

Focusing on SCIP members allowed the limited time and resources to be used in the most effective and efficient manner, with the assumption that they would have a definite interest in CI in action and that their contact details would be relatively simple to access. It was assumed that they would be more willing to take part in the research because of their apparent dedication to CI. This again, was assumed because of their SCIP membership.

Sources of contact: The main source of contact details for SCIP members was the 2002 SCIP Membership Directory. After contacting SCIP headquarters in the US, permission was granted to use the names in the directory. However, attendance at the SCIP Annual European Conference in London on October 2000 and using attendance list SCIP Annual European Conference in Munich on October 2001 allowed access to a very up-to-date list of possible contacts, in the form of the delegates' list; as some delegates are not SCIP members.

To make the sample frame of SCIP members as accurate and current as possible, the SCIP administration offices was contacted.

5.4.7 Data-collection method

There are several methods that can be used for collecting data for building or testing hypotheses or theories. The choice of the most appropriate method is a key function in the success and the reliability of any research study. Although it is beyond the direct concern of this study to present systematically and critically examine these methods, the following brief discussion could help to justify the choice of the method used for collecting data for this study.

5.4.7.1 Qualitative and Quantitative Research

Quantitative investigations look for "distinguishing characteristics, elemental properties and empirical boundaries" (Horna, 1994) and tend to measure "how much", or "how often" (Nau,

1995). Trochim, (2000), argues that, researchers can call data quantitative if it is in numerical form and qualitative if it is not.

Qualitative research designs are those that are associated with interpretative approaches, from the informants' emic point of view, rather than etically measuring discrete, observable behaviour (Jones, 1997). The advantages of a qualitative methodology for CI and MSF research can be summarised as follows:

- Qualitative methodologies allow the understanding and affective components of CI to be explored in greater depth than quantitative methodologies.
- Qualitative methodologies encourage the informant to introduce concepts of importance from the emic aspect, rather than sticking to subject areas that have been pre-determined by the researcher. As noted earlier, research into the CI and MSF is rare, and thus the flexibility of qualitative methodologies is appropriate for research that may be exploratory in nature like this study.

The main argument against this approach is the concept of validity, in that it is difficult to determine the truthfulness of findings. The relatively low sample numbers often met may also lead to claims of findings being unrepresentative of the population understudy.

Although the use of a single methodology has been supported by a number of authors, many of the supporting arguments are decidedly practical, such as time constraints, the need to limit the scope of a study, and the difficulty of publishing the findings (Creswell, 1994; Jones, 1997). Halfpenny (1979), suggests that qualitative research and quantitative research can view a subject from different perspective and hence the sources of information obtained allow a more in-depth view of the subject under study.

The key aspect in justifying a mixed methodology research design is that both single methodology approaches (qualitative only and quantitative only) have strengths and weaknesses. The combination of methodologies, on the other hand, can focus on their relevant strengths. The researcher should aim to achieve the situation where "blending qualitative and

quantitative methods of research can produce a final product which can highlight the significant contributions of both" (Nau, 1995; Langrish, 1993), where "qualitative data can support and explicate the meaning of quantitative research" (Jayaratne, 1993; Jones, 1997). By adopting the following assumptions, the researcher should ensure that the final product maximises the strengths of a mixed methods approach. The purpose of this discussion is not to suggest that a mixed methodology is the only suitable research design for this topic, rather that it is an appropriate, and at times desirable design. The overall choice needs, of course, to be the most suitable one to achieve the objectives of the research.

To conclude, considering the various available research methods and their advantages and disadvantages, it was decided that this study required both qualitative and quantitative methods, also called a mixed methodology or multi-method (Cohen and Manion, 1994). Therefore, the main methods employed for this research were questionnaire survey which were intended to produce both quantitative and qualitative data, while the qualitative methods was carried out through semi-structured interviews used to support the surveys.

Therefore, the researcher had the choice of three main methods, namely *interviewing, administering questionnaires*, and *observing people and phenomena*. Each method has its own strengths and weaknesses that must be borne in mind when making the decision (Jobber, 1986).

Interviews, according to Burgess (1994) stated that the interview is the opportunity for the researcher to probe deeply to uncover new clues, open up new dimensions of a problem and to secure vivid, accurate inclusive accounts that are based on personal experience. *Questionnaires* are a per-formulated written set of questions that are translated from the research objectives. There are many advantages to administering questionnaires. The main strength of mail surveys is the ability to reach a widely dispersed sample at the same time and at a relatively low cost without the possible any loss of time. They are relatively reasonably priced to administer. The researcher can send the exact same instrument to a wide number of people and it allows the respondents to fill it out at their own convenience.

Mail questionnaires however have been widely criticised because response rates from mail questionnaires are often very low. Even when mail questionnaires may not be able to achieve a high response rate as personal interviewing, its qualities can be strong enough to weigh the balance in its favour, particularly when an estimate can be made of the effect of the non response (see, for example, Kanuk and Berenson, 1982 and Moser and Kalton, 1971).

Observation of relevant actors and settings is the simplest method of data collection. Generally speaking, observation is best suited for exploratory research where the researcher is involved in investigating an area in which he/she is not knowledgeable enough to have formulated detailed research questions or developed clear hypotheses about the problem under investigation (Silverman, 1997; Kinnear & Taylor, 1996; Green and Tull, 1978).

However, in many cases where the behaviour is private or impossible to observe, the method cannot be used at all. In other words, the data must be accessible to observation (Tull and Hawkins, 1987). Secondly, observation can be very time consuming. Unless there is a fairly constant level of activity, there is a danger that the researcher spends too much valuable time simply waiting for something to happen. Alternatively so much might be happening that the researcher is unable to see or more usually is unable to record (Moore, 1987).

This brief review has shown that it is impossible to say which method is superior in absolute terms. Each method has its own strengths and weaknesses and none is best in all situations. This is why a variety of methods have been chosen for this study to minimise the weaknesses and capitalise on the strengths of each.

As mentioned earlier, the thesis strides two distinct disciplines, each established with its own basic theories and guidelines for application. These are strategy, or more specifically marketing strategy, and competitive intelligence. Because of this, the following section, which elaborates on the contact methods chosen and makes a justification of each chosen option, is in two groups. The ideal method would be to conduct an in-depth face-to-face interview with each willing European SCIP member as well as to watch CI in action over a period of time in each willing SCIP member's company. However, time constraints will prevent this.

Furthermore, because of the sensitivity of the topic, it could prove very difficult to arrange interviews with people with whom there had been no previous contact. Therefore, the main data-collection methods used are administering questionnaires and In-depth interviews. It was interesting and proved beneficial that the questionnaire survey and the interviews methods used in data collection complemented each other. These have helped the author to strengthen the findings for this research.

5.4.7.2 In-depth interviews

Before the actual study is carried out, the common practice is to perform a pilot study in conditions as close to the actual situation as possible. In this case, in-depth interviews were carried out to a) identify key issues of major concern from business practitioners' perspectives; b) gather first-hand information to support formulation of the theoretical framework; and c) identify potential areas of covert factors that underlie the key issues and that should be incorporated in the research instrument in the large scale survey.

As the main aim for the interviews, is to obtain additional information for the second stage (administering questionnaires) of this research; in-depth interviews were used to allow further identification of the key questions. Miller (1983), claimed that the semi-structure interview is defined as focusing on a core of standard, questions or topic, with other questions generated from the interviewee's response. It provides advantages in which all individuals' responses can be compared to the core questions, and other issues, spontaneously raised by the interviewee can be taken account of. Miller (1983), further suggested that the semi-structured interview provide enough freedom for interviewees to steer the conversation and allows them to express their opinions completely, which enables the researcher to explore the field for developing ideas and confirming the influencing factors for further studies. Therefore, the semi-structure interviews were considered the most appropriate for the research. These interviews allowed close contact between subject matter and the researcher, which was useful in this area, where the theory has not yet been well developed.

Interviews implementation

The interviews were conducted using a printed, standardised instrument as an interview guide for semi-structure interviews. A semi-structured format was adapted to combine the advantages of structured and depth interviews, allowing the interviewer to ask specific questions but allowing him/her to probe beyond them as necessary. The interview process involved: 1) A pilot interview to refine the instrument and questions, 2) final instrument review with committee member, 3) final instrument design, 4) interview scheduled and conducted, 5) analysis of the interviews data.

A pilot interview was conducted with John McDonald-Dick, CI manager for ICON Clinical Research (UK), who has much experience in CI.

As interviews can be very time consuming and they are resource intensive. A researcher with limited funds may find it difficult to obtain a viable sample size within budget. For these reasons, only UK CI managers were targeted. With the group of 302 UK CI managers were identified, a letter were posted to 302 CI managers in UK (on the 5th of August 2001) asking them if they willing to take a part in the interviews. Only 23 were responded back positively and two of them later had to cancel for various reasons. The interviews were conducted through out September 2001 and December 2001. Data was collected through semi-structure interviews with 21 UK CI managers. Each interview lasted from 30 minutes to one hour. An interview guide was used to avoid losing focus and to ensure that all relevant questions were asked. Questions were both closed and open-ended (see Appendix 1 and Appendix 2). Indeed, while some indicators required a brief and precise answer, it is also desirable to let information emerge from the field. Allowance was encouraged within the interviews for participants to reflect and pursue their own interpretations from their experience. Respondents were thus given the opportunity to express their thoughts on the topic of interest as freely as possible.

Initially, the interview guide was sent ahead of time to the respondent. It was felt that by reading the questions before the interview, the respondents would have time to think about his/her answers and to generally reflect on the CI performed in his/her company. However,

this strategy was quickly adjusted as the length of the interview guide had nearly scared away the first potential respondent. The optimum location for the interviews was the interviewee's own office environment. This offers the opportunity to measure the atmosphere and environment of the company, as well as company materials being on-hand. Some of these interviews were carried out by telephone due to the respondents' request. Moreover, in some cases, respondents allowed the audiotape recording of the interview. When such recording was not possible, the researcher managed to take notes while listening to the respondent. Notes were reviewed the same day.

The information gathered from the pilot study was help to screen the focus of the research and refine the design of the questionnaire. This was helping the development of the research framework, and resulted in the finalised questionnaire used in the later survey. To keep the presentation of the work within a reasonable volume, the details of the pilot interviews will be excluded. Only the information relevant to the research framework (How does CI contribution to MSF) will be used for exploratory analyses, which will be described in the following chapter.

As it has been mentioned above, most of the interviews were audiotape. All respondents answers were transformed into 21 separate word files using MICROSOFT WORD 2000^{TM} as a word processor. However, to keep the presentation of the work within a reasonable volume, the details of the pilot interviews were excluded. Only the information relevant to the research framework was used for the development of "the contribution of CI to the marketing strategy formulation" part in the questionnaires (questions: 10, 11, 12, and 13 in Appendix 2). Each file therefore, consisted of 4 passages demonstrating the respondents' answers to the four questions (a total of 21 interview x 4 questions = 84 passages). It is important to point out that, individual answers different in length, knowledge, and content. The information was prepared in this way to facilitate code and analysis.

The coding and analysis were carried out using two totally similar Softwares: CDC EZ TEXT™ Version 3.06 and AnSWR™ packages [1] (Analysis Software for Word Based Records), Version 6.0.132. EZ TEXT™ was used to generate, organise and answer the problem of consistency among interview write-up by the create of series of qualitative data entry templates, specially modified to the interviews questions, where data can be imported directly from MICROSOFT WORD 2000™. However, the EZ TEXT™ reports capabilities are restricted. Therefore, the analysis conducted using advanced and strong package AnSWR™ where the reports interface is very sophisticated and can produce hundreds of useful forms.

The second stage involved coding the data by handover distinctive labels to text passages that include references to special categories of information (Gorden, 1992; Miles and Huberman, 1994). The codebook containing a record of codes together with their definitions was listed [2] and the final contained 22 unique codes matching to different points stated at least once by one or more of the 21 respondents (please refer to appendix 3).

The working draft of the codebook was then used by two individual coders who coded 75% of the interviews twice [3]. The main aim of the primary coding was to pre-test and resolve problems with the codebook (Miles and Huberman, 1994). The second coding was then used to measure the level of agreement between the two coders.

Examination of the codebook pre-test results indicated that only 33 out of the 64 responses (75% of 84) were coded in the same way by both coders. This unacceptable level of reliability indicated necessitates to additional refine the codebook. The developed codebook was then reused again throughout the second coding and the final level of agreement was reached for 93% of the responses.

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[1] CDC EZ-TEXT V. 3.06 is designed and developed by Conwal Incorporated for the Centres for Disease Control and Prevention. AnSWR V. 6.0.132 is designed and developed by TRW Incorporated and CDC.
[2] The creation of the code list was an inductive task, based on what respondents said.
[3] 75% representing 63 passages for verification. This sample is considered sufficient by Carey *et al.* (1995).

This strategy was balanced by an examination of agreement in the use of each separate code by the two coders. Chance was also accounted for (Gorden, 1992) by using Kappa [4] statistic. Kappa values of 0.9 and greater were achieved for 94% of the codes. Kappa's values <= to 0.89 were checked and discrepancies were addressed by the researcher.

5.4.7.3 Questionnaire construction

The use of questionnaires can reach a wide sample and can provide well-structured replies, although the limitations include the possibility of bias or misunderstandings arising from the wording of the questions. A further risk is lack of quantity of returned questionnaires. However, the uses of SCIP members as the sample frame were increasing the chances of a good response. Thus, the knowledge offered should be of an acceptable quality.

In the following section four aspects related to questionnaire design are commented on the source of ideas for questions, the type of questions, and the type of scales. Sources of ideas for questions were based mainly on a detailed search of the available literature regarding CI and information that obtained from the In-depth interviews. Suggestions were made by the researcher's supervisors and other staff members in the marketing department.

With regard to the type of questions, a combination of open-ended and closed type of questions was used in order to gain the advantage of using both types. However, the advantage of obtaining further information was not lost because a space for additional views was provided where relevant to be completed by the respondent, which, in fact, allowed more information both in amount and in depth. In addition to this, some open-ended questions were used to give the respondents the opportunity to express their feelings and / or views on specific issues.

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[4] Kappa is a measure of the amount of agreement between two coders after statistically adjusting for agreement due to chance. Total agreement between coders yields a Kappa = 1.00 Any disagreement produces a value < 1.00 with lower values indicating larger discrepancies. Kappa takes negative values when there is less agreement than expected by chance alone.

Scaling is the assignment of the objects to numbers according to a rule. In most scaling, the objects are text statements, usually statement of attitude or belief. But researchers often confuse the idea of a scale and a response scale. A response scale is the way researchers collect responses from people on an instrument. Researchers might use a dichotomous response scale like Agree/Disagree, True/False, or Yes/NO. Or, researchers might use an interval response scale like a 1-to-5 or 1-to-7 rating. But, if all researchers are doing is attaching a response scale to an object or statement, researchers cannot call that scaling. Scaling involves procedures that researchers do independent of the respondents so that they can come up with a numerical value for the object. In true scaling research, researchers use a scaling procedure to develop their instrument (scale) and they also use a response scale to collect the responses from participants (Trochim, 2000). For this research, normal scale and Likert summated rating scale were used.

Survey implementation

The questionnaire was subjected to a pilot test on a small sample of four UK CI managers from different industries. The selection of this sample was for reasons relating to its convenience and because it contains of managers reflecting different industries. Upon completion of the questionnaire, respondents were asked if they faced any difficulties filling out the questionnaire. The result answers enabled the researcher to amend the questionnaire, especially in regard to phrasing and questionnaire format.

The questionnaire for the survey consisted of four parts. The first part aimed to establish the current status of competitive intelligence in European companies. The second part to look at what kind of sources, tools/systems, and techniques do CI managers use. The third part to investigate whether competitive intelligence contribute to marketing strategy formulation; and to establish if managers, consider competitive intelligence to be a central component of marketing strategy formulation. The final part asked information about the industry, size of the respondent company.

With the group of CI managers were identified, a self-administered questionnaire was used. The questionnaires were posted to 302 CI managers in UK (on the 12th of March 2002) and 504 CI managers in Europe (on the 5th of April 2002). To allay any fears of confidentiality or authenticity, the questionnaires (see Appendix 5) had a covering letter (see Appendix 4) offering explanation of the aims of the study, its benefits, the importance of each manager reply for the study's success and the opportunity for anonymity and the reassurance that the results were used for academic purposes only. A stamped addressed envelope was enclosed to limit non-response errors. A copy of the research findings also made available to respondents.

The effect of personalising the cover letter and mailing envelopes have been explored by many researchers, the results, however are inconclusive. Researchers (Dillman 1978, Paterson 1997, and Yu and Copper 1983) suggest that personalisation of cover letters and mailing envelopes affects response rates positively. Given this evidence, all cover letters and mailing envelopes were addressed in person. In addition, the researcher signed all the letters individually. The researcher also created a responses record book (see Appendix 6) in order to keep record for all the responded. This record book helped the researcher to identify all CI managers who did not responded to the questionnaire.

The use of follow-ups seems to be a generally accepted practice in mail survey. Scott (1961), called the use of follow-up 'the most potent technique yet discovered for increasing response rate'. The evidence to date seems to support this view. Four weeks after the mail of the questionnaire, a follow-up letter was sent to non-respondents (see Appendix 7). It served as a friendly reminder for those who have not responded. The mail-out package also included a replacement questionnaire and a stamped addressed envelope. A second fellow-up was mailed to non-respondents exactly four weeks after the first follow-up letter (see Appendix 8). It consisted of a cover letter that informed managers that their questionnaire has not been received and included a re-statement of the subject of the study and the importance of everyone's reply to the study's success. It included also a replacement questionnaire and another a stamped addressed envelope.

Each mail-out package has worked very well and generated further responses. In fact, the response rate reached (31.1% for UK and 26.4% for Other European) which was judged to be good and provides an adequate database for analysis. The analysis and findings of the field research will be discussed in the next chapter.

This initial contact was assist to provide a basis for further contact methods to deepen the research. The respondents were asked if they would be willing to participate in a follow-up interview (see Appendix 9). The interviews were serve to clarify and expand on the answers given in the questionnaire, as well as provide the opportunity to ask for real examples of CI & MSF in action.

5.4.8 Response Rate

Response rate is defined as the percentage of respondents in the initial sample from which complete responses are obtained. Response rate defines the extend of possible bias from non-response; hence it serves as the important index of data quality in a survey (Judd, Smith and Kidder, 1991). However, in research practice there is no easy answer as to what constitutes an acceptable response rate since scientists do not agree on a standard for a minimum response rate (Fowler, Jr, 1993). In addition, a high response rate is meaningful only when the initial sample is properly designed and constitutes a representative sample of any larger population (Judd *et al*, 1991).

For calculating response rate the key factor is to determine eligibility of the units in the sample, because the response rate is uncertain if there are some unites for which information needed to determine eligibility is not obtained (Fowler, Jr, 1993). For the present research, there is no information regarding total population size (i.e. the number of managers involved in CI), and neither is it possible to determine the eligibility of the full potential participants in the sample due to the sensitivity of the research subjects. These reasons precluded any direct calculation of response rate (Johnson, Cullen, Sakano and Takenouchi, 1996). Testing for non-response bias was not used since it was deemed not obtainable.

Table 5.1 The sample structure of UK and European CI mangers

Description for UK	Number	Percentage %
Distributed questionnaires for UK	302	100
Total Response of UK	107	35.4
Uncompleted questionnaires returned	13	4.3
Usable questionnaires	**94**	**31.1**
Description for Other European	**Number**	**Percentage %**
Distributed questionnaires for Other European	504	100
Total Response of Other European	144	28.5
Uncompleted questionnaires returned	11	2.1
Usable questionnaires	**133**	**26.4**

Table 5.1 indicates that the total numbers of 302 UK CI managers and 504 Other European managers selected in the sampling frame, participants were selected from SCIP membership. Despite the nature of the study and the argument that managers have a negative response toward questions dealing with intelligence activities, the relatively high total response rate (31.1% for UK and 26.4% for Other European) was due to the procedures followed in identifying the sample frame and in distributing the questionnaire.

5.5 Measurement

Measurement of the variables under examination is an integral part of research; unless the variables are measured in some way, it is impossible to test hypotheses and find answers to complex research issues (Sekaran, 1992). But what is measurement? Measurement is the process observing and recording the observations that are collected as part of a research effort (Trochim, 2000). The most frequently quoted definition of measurement is that given by Stevens (1951), which defines measurement as a procedure in which the researcher assigns numerals (e.g., numbers or other symbols) to empirical properties (variables) according to rules. In social sciences, however, this definition is regarded as inappropriate, since many of

the phenomena to be measured in social science research are typically too abstract to be adequately characterised as either objects or events (Carmines and Zeller, 1994). To be more relevant to the social sciences, it is suggested to view measurement as the process of linking abstract concepts to empirical incidents by involving an explicit, organised plan for classifying and quantifying the particular sense data at hand (the incidents) in terms of the general concept in the researcher's mind (Carmines and Zeller, 1994; Riley, 1963).

Constructs in the social relationships should be defined in abstract, theoretically related terms, The construct is the initial concept, idea, question or hypothesis that determines which data is to be gathered and how it is to be gathered (Wainer & Braun, 1988). In research practice, a construct or a concept is operationally defined (operationalised) by looking at the behavioural dimensions, facts, or properties, denoted by the concept, and categorising these into observable and measurable elements. At an empirical level, the focus of measurement is on the observable response from the subjects; at a theoretical level, the focus is on the underlying unobservable (and directly un-measurable) concept that is represented by the response (Carmines and Zeller, 1994,). In other words, a properly designed measurement should sufficiently obtain the crucial relationship between the empirically grounded indicators (the observable response) and the underlying unobservable concepts in order to permit the evaluation of the empirical applicability of theoretical propositions in a research.

A measurement instrument can be developed by the researcher through basic research, or can be adopted from received studies that have passed tests of validity and reliability for testing in new contexts (Brislin, 1986). There are considerable advantages in using existing instruments. For instance, time and costs can often be conserved when using existing instruments. In addition, using existing instruments allows comparisons of the published studies with newly acquired data, which allow a literature to be built up around a commonly shared set of concepts and operational definitions (Brislin, 1986).

This research does not seek to develop measurement scales for new constructs. Five-point interval (Likert) [5] scales were used for the measurement of the variables of the relationship between CI and MSF. In the questionnaire detailed instructions were given in each section on the nature of the questions and how to apply the scale to respond to the questions.

5.5.1 Validity

A much cited definition of 'validity' is that of Hammersley's (1987): "An account is valid or true if it represents accurately those features of the phenomena, that it is intended to describe, explain or theorise." Although this would seem to be an all-encompassing and reasonable description, many other definitions fail to envisage such a 'realist approach' (Denzin & Lincoln, 1998)

'For some researchers (mainly qualitative), 'validity' is not a singular acid test that can be applied to the research process as a whole. The 'validity' measure can be applied differently depending upon the researcher's beliefs as to what stage of the research process is in need of validation. Such an approach may see validity as referring only to measurement, observers, scores, instruments, relationships between scores or observable variations, rather than to the whole research process' (Winter, G., 2000).

It is very important at this stage to address validity within qualitative and quantitative research. Trochim (2000) argued that, 'the traditional criteria for 'validity' find their roots in a positivist tradition, and to an extent, positivism has been defined by and boosted along by a systematic theory of 'validity'. Within the positivist terms, 'validity' existed amongst, and was the result and conclusion of other empirical conceptions: universal laws, evidence, objectivity,

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[5] Likert scales were developed in 1932 by Likert, R., as the familiar five-point bipolar response format most people are familiar with today. These scales always ask people to indicate how much they agree or disagree, approve or disapprove, believe to be true or false. Likert scales involve the use of a standardised set of responses that can be used to answer a variety of questions or statements. Any scale where researcher force respondents to use the same, standardised response categories, and where those response categories are ordinally related to one another (ranked) is a likert scale.

truth, reality, inference, reason, fact and mathematical data to name just a few. It is within this tradition and terms that quantitative research is traditionally defined. Qualitative research, arising out of the post-positivist rejection of a single, static or objective truth, has concerned itself with the meanings and personal experience of individuals, groups and sub-cultures. 'Reality' in qualitative research is concerned with the negotiation of 'truths' through a series of subjective accounts. Whereas quantitative researchers attempt to disassociate themselves as much as possible from the research process, qualitative researchers have come to embrace their involvement and role within the research. For quantitative researchers this involvement would greatly reduce the validity of a test, yet for qualitative researchers denying one's role within research also threatens the validity of the research'.

Some qualitative researchers have argued that the term validity is not applicable to qualitative research and have at the same time realised the need for some kind of qualifying check or measure for their research. As a result many researchers have supported their own theories of 'validity' and have often generated or adopted what they consider to be more appropriate terms, such as 'trustworthiness', 'worthy', 'relevant', 'plausible', 'confirmable', 'credible' or 'representative' (Denzin & Lincoln, 1998; Guba & Lincoln, 1989; Hammersley, 1987; Mishler, 1990; Wolcott, 1990).

In social sciences there are four main types of validity that are used to test the goodness of measures: external validity, internal validity, construct validity and conclusion validity (DeVellis, 1991; Sekaran, 1992; Trochim, 2000; Garson, 2001).

External validity is related to generalising. External validity has to do with possible bias in the process of generalising conclusions from a sample to a population, to other subject populations, to other settings, and/or to other time periods (Garson, 2001). Therefore, external validity refers to the approximate truth of conclusions the involve generalisations. External validity is the degree to which the conclusions in a study would hold for other persons in other places and at other times (Trochim, 2000).

In this study, the researcher started by identifying the population of CI managers. Then, the researcher drew a fair sample from that population and conducted the research with that sample. Finally, because the sample is representative of the population, the researcher can automatically generalise the results back to the population.

Internal Validity is the approximate truth about inferences regarding cause-effect or causal relationships. Thus, internal validity is only relevant in studies that try to establish a causal relationship. It's not relevant in most observational or descriptive studies, for instance. But for studies that assess the effects of social programs or interventions, internal validity is perhaps the primary consideration (Trochim, 2000). Different threats to internal validity were identified by many researchers (see Cook and Campbell, 1979; Trochim, 2000; Garson, 2001). For this study, the researcher achieved internal validity by keeping inferences to the minimum.

Construct validity refers to the degree to which inferences can reasonably be made from the operationalisations in research study to the theoretical constructs on which those operationalisations were based. It is the approximate truth of the conclusion that the operationalisation accurately reflects its construct. Construct validity is an assessment of how well researchers translated their ideas or theories into actual programs or measures. Why is this important? Because when researchers think about the world or talk about it with others (land of theory) they are using words that represent concepts (Trochim, 2000). Construct validity is assessed through convergent and discriminant validity. Convergent validity indicates the overlap between alternative measures that are intended to tap the same construct but that have different sources of irrelevant, undesired variation (Judd, Smith and Kidder, 1991). Discriminant validity requires that a measure does not correlate too highly with measures from which it is supposed to differ (Churchill, 1995). Both convergent and discriminant validity hinge on the same construct being measured. In some cases, theory may postulate that other constructs, although not identical, should be correlated, which could also serve as evidence of the construct validity (Judd *et* al, 1991). Therefore, the construct validity of a measure can be assessed by whether the empirical relationships observed with a measure confirms or denies the theoretically postulated nomological net of the construct (Judd *et* a*t*., 1991; Churchill, 1995; Trochim, 2000). This is known as nomological validity.

The following types of construct validity can be identified in the social research literature (Trochim, 2000): Content validity and criterion-related validity.

In content validity, researchers essentially check the operationalisation against the relevant content domain for the construct. This approach assumes that researchers have a good detailed description of the content area, something that's not always true. Content validity focuses on item sampling sufficiency, i.e., the extent to which the measure includes an adequate and representative set of items that would capture the content domain of the concept (Churchill, 1995; DeVellis, 1991; Sekaran, 1992; Trochim, 2000). It leans on two common varieties: face validity and sampling validity. In face validity, researchers look at the operationalisation and see whether "on its face" it seems like a good translation of the construct. In practice, it concerns the degree to which the researcher believes that the instrument is appropriate. On the other hand, sampling validity refers to whether a given population is sufficiently sampled by the measuring instrument in question. In other words, it concerns whether the content of the instrument (statement, questions or indicators) effectively represent the property being measured. In reality, however, the area of a content population is arbitrarily defined, which harms the effectiveness of sampling validity as a test of an instrument's overall validity. However, it does assist an important function: it necessitates familiarity with all the items of the content population (Frankfort-Nachrnias and Nachmias, 1996). It is important to point out that, content validity has limited usefulness in social sciences. First, although the acceptance of the universe of content as defining the variable to be measured is essential (Cronbach, Meehl, 1955), it is extremely difficult to be achieved with respect to measures of the abstract phenomena in social sciences. Second, there is no agreed-upon, well-defined, objective criteria for formative the level to which a measure has attained content validity, hence "inevitably content validity rests mainly on appeals to cause regarding the adequacy with which imperative content has been sampled and on the sufficiency with which the content has been cast in the form of test items" (Nunnally, 1978): While attempts should be made to insure the content validity of any empirical measurement, it cannot be used as fully adequate assessment of the validity of social science measures (Carmines and Zeller, 1994).

In criterion-related validity, researchers examine whether the operationalisation acts the way it should given your theory of the construct. This is a more relational approach to construct validity. 'It assumes that researchers operationalisation should function in expected ways in relation to other operationalisations based upon their theory of the construct. In criteria-related validity, researchers check the performance of their operationalisation against some criterion. How is this different from content validity? In content validity, the criteria are the construct definition itself, it is a direct comparison. In criterion-related validity, researchers usually make a prediction about how the operationalisation will perform based on their theory of the construct. This can be established by concurrent validity or predictive validity. In predictive validity, researchers assess the operationalisation's ability to predict something it should theoretically be able to predict. It is concerned with a future criterion that is correlated with the relevant measure. In concurrent validity, we assess the operationalisation's ability to distinguish between groups that it should theoretically be able to distinguish' (Trochim, 2000). As with content validity, criterion-related validity has rather limited usefulness in the social sciences, simply because in many situations there are no criteria against which the measure can be reasonably evaluated. As a result, it is inapplicable to many of the abstract concepts in the social sciences (Carmines and Zeller, 1994).

In sum, criterion-related validity and content validity have limited usefulness for assessing the validity of empirical measures of theoretical concepts in social sciences. Partly for this reason primary attention should be focused on construct validity, which is central to the measurement of abstract theoretical concepts (Carmines and Zeller, 1994; Cronbach and Meehl, 1955; Trochim, 2000). For this research, therefore, the assessment of measure validity was focused on conclusion validity of the relationship between CI and MSF.

Conclusion validity is the most important of the four validity types because it is relevant whenever the researcher is trying to decide if there is a relationship in his / her observations (and that's one of the most basic aspects of any analysis). Trochim (2000), define it as: "Conclusion validity is the degree to which conclusions we reach about relationships in our data are reasonable". Conclusion validity is the degree to which the conclusion we reach is credible or believable.

Whenever researchers investigate a relationship, they essentially have two possible conclusions, either there is a relationship in their data or there is not any relationship. In either case, however, they could be wrong in their conclusion. They might conclude that there is a relationship when in fact there is not, or they might infer that there isn't a relationship when in fact there is (but they didn't detect it!). So, researchers have to consider all of these possibilities when they talk about conclusion validity. Therefore, conclusion validity is only concerned with whether there is a relationship (Trochim, 2000).

For this study, the researcher used three main tools to improve conclusion validity, good statistical power, good reliability and good implementation. In this section, the focus was on good statistical power (for discussions regarding good reliability see Chapter Six section: 6.3.1, and for good implementation, see Chapter Seven section: 6.1).

In the statistical power for the present research, there are four interrelated components that influence the conclusion researcher might reach from a statistical test in a research project. The four components are: sample size, effect size, alpha level and power. Some of these components will be more manipulable than others depending on the circumstances of the project. The goal is to achieve a balance of the four components that allows the maximum level of power to detect an effect if one exists, given programmatic, logistical or financial constraints on the other components.

For the present research, there is no information regarding total population size (i.e. the number of managers involved in CI), and neither is it possible to determine the eligibility of the full potential participants in the sample due to the sensitivity of the research subjects. Therefore, the researcher drew a fair sample (see sample frame) from that population and conduct the research with the sample. Finally, because the sample is representative of the population, researcher can automatically generalise the results back to the population, as well as increase the statistical power and the effect size. Furthermore, the researcher attempted to achieve solid conclusion validity by standardising the way the questionnaires was

administered and using relevant statistical tests. Further details about these tests are the subject of the next chapter.

5.5.2 Reliability

Researchers have a responsibility, to insure and defend the credibility of their work. Students need to begin acquiring the skills for accomplishing these essential research goals.

Reliability is defined by Carmines and Zeller (1979) as "the tendency toward consistency found in repeated measurements of the same phenomenon". Reliability is revealed by "the extent to which an experiment, test, or any measuring procedure yields the same results on repeated trials". Reliability, therefore, is related to measurement. Measurement reliability is rooted in the degree to which measurement of any phenomenon is confounded by factors that are designated either random error or systematic error/bias. Carmine and Zeller explains further that "a highly reliable indicator of a theoretical concept is one that leads to consistent results on repeated measurements because it does not fluctuate greatly due to random error". Random error is present when chance factors occur in ways that cannot be predicted, i.e., "neither the direction nor the magnitude of these errors can be predicted" (Chase, 1978). Systematic error is present when confusing factors occur as a result of faulty instrumentation that has a predictable affect on the measurement outcomes. The major concern of reliability is controlling for error. When we speak of reliability, we are not speaking about individuals; we are actually talking about scores.

Reliability can be viewed as the ratio of the true score over the true score plus the error score, or:

$$\frac{\text{True Score}}{\text{True Score + Error Score}}$$

By this definition it is obvious that the reliability of a measure varies between 0 and 1, with 0 meaning complete unreliability (the measure produces scores that are effectively unrepeatable

random number) and 1 meaning perfect reliability (no random error components whatever; all the items measure exactly the same thing) (Frankfort-nachmias and Nachmias, 1996, Judd *et al*, 1991).

Simply put, the degree of reliability can be increased by decreasing the error score. So, if researchers want a reliable instrument, they must decrease the error. Moreover, it is important to note that reliability cannot be calculated; it can only be estimated. The best way to estimate reliability is to measure the degree of correlation between the different forms of a measurement. The higher the correlation, the higher the reliability.

There are four general classes of reliability estimates, each of which estimates reliability in a different way. They are: Inter-rater or inter-observer reliability, test-retest reliability, parallel-forms reliability, and internal consistency reliability (Garson, 2001).

'Inter-rater or inter-observer reliability. Whenever researcher use humans as a part of their measurement procedure, they have to worry about whether the results they get are reliable or consistent. People are famous for their inconsistency. They are easily distractible. They get tired of doing repetitive tasks. They daydream. They misinterpret.

So how do researchers determine whether two observers are being consistent in their observations? Researchers probably should establish inter-rater reliability outside of the context of the measurement in their study. After all, if they use data from their study to establish reliability, and they find that reliability is low, they're kind of stuck. Probably it's best to do this as a side study or pilot study. And, if their study goes on for a long time, they may want to re-establish inter-rater reliability from time to time to assure that their raters aren't changing.

There are two major ways to actually estimate inter-rater reliability. If researchers measurement consists of categories (the raters are checking off which category each observation falls in) they can calculate the percent of agreement between the raters.

The other major way to estimate inter-rater reliability is appropriate when the measure is a continuous one. There, all researchers need to do is calculate the correlation between the ratings of the two observers.

The test-retest methods, used to assess the consistency of a measure from one time to another. Researchers estimate test-retest reliability when they administer the same test to the same (or a similar) sample on two different occasions. This approach assumes that there is no substantial change in the construct being measured between the two occasions. The amount of time allowed between measures is critical. All know that if we measure the same thing twice that the correlation between the two observations will depend in part by how much time elapses between the two measurement occasions. The shorter the time gap, the higher the correlation; the longer the time gap, the lower the correlation. This is because the two observations are related over time, the closer in time researchers get the more similar the factors that contribute to error. Since this correlation is the test-retest estimate of reliability, researchers can obtain considerably different estimates depending on the interval' (Trochim, 2000).

In parallel forms reliability researchers first have to create two parallel forms. One way to accomplish this is to create a large set of questions that address the same construct and then randomly divide the questions into two sets. Researchers administer both instruments to the same sample of people. The correlation between the two parallel forms is the estimate of reliability. One major problem with this approach is that researchers have to be able to generate lots of items that reflect the same construct. Furthermore, this approach makes the assumption that the randomly divided halves are parallel or equivalent. Even by chance this will sometimes not be the case. Carmines and Zeller (1994), argues that, this method is regarded as superior to the test-rest method, but it has difficulty as to whether or not the two forms of an instrument are in fact parallel. Although statistical tests have been developed to determine whether the forms are parallel, researchers must still rely on their judgement when evaluating the results (Frankfort-nachmias and Nachmias, 1996).

In order to avoid the problems and limitations in the inter-rater, test-retest, and parallel-form methods, an alternative procedure known as internal consistency reliability can be used. In

internal consistency reliability estimation researchers use their single measurement instrument administered to a group of people on one occasion to estimate reliability. In effect they judge the reliability of the instrument by estimating how well the items that reflect the same construct yield similar results. Researchers are looking at how consistent the results are for different items for the same construct within the measure. Internal consistency estimates reliability by grouping questions in a questionnaire that measure the same concept. There are a wide variety of internal consistency measures that can be used: Average inter-item correlation, average itemtotal correlation, split-half reliability, and Cronbach's Alpha (α).

The average inter-item correlation uses all of the items on researchers' instrument that are designed to measure the same construct. Average itemtotal correlation, this approach also uses the inter-item correlations.

In contrast to the test-retest and parallel-form methods that require two test administrations with the same group of subjects, the split-half methods can be conducted on one occasion, on which the total set of scale items is divided into halves and the scores on the halves are correlated and statistically corrected through the Spearman-Brown prophecy formula to obtain reliability. Trochim, (2000), argues that, 'in split-half reliability researcher randomly divide all items that purport to measure the same construct into two sets. Researchers administer the entire instrument to a sample of people and calculate the total score for each randomly divided half.

The split-half reliability approach is very similar to the parallel-form reliability. The major difference is that parallel forms are constructed so that the two forms can be used independent of each other and considered equivalent measures. With split-half reliability researchers have an instrument that they wish to use as a single measurement instrument and only develop randomly split halves for purposes of estimating reliability'.

It is important to note that, there is certain uncertainty in using the split-half methods to estimate reliability due to the different ways that the items can be grouped into halves (Carmines and Zeller, 1994). Distinctively speaking, each split may result in a little different

correlation between the two halves that, in turn, will lead to a different reliability estimate. As well, the number of different splits is a function of the number of total items, therefore obtaining a consistent estimate of reliability increases as the number of items increases. For these reasons, using the split-half methods is likely to obtain different reliability estimates even though the same items are administered to the same individuals at the same time.

Cronbach's Alpha (α), the most popular of the internal consistency estimates is given by Cronbach's coefficient alpha (Cronbach's, 1951) for multipoint-scaled items, and the Kuder-Richardson formulas (Kuder and Richardson, 1937) for dichotomous items. Cronbach's alpha is derived from the correlations of each item with each other items, and ranges from 0 to 1, with 0 meaning complete unreliability and 1 meaning perfect reliability. In short, Cronbach's alpha splits all the questions on the researchers instrument every possible way and computes correlation values for them all (we use a computer program for this part). In the end, researchers computer output generates one number for Cronbach's alpha - and just like a correlation coefficient, the closer it is to one, the higher the reliability estimate of their instrument. Cronbach's alpha is a less conservative estimate of reliability than test/retest. As has proven by Novick and Lewis (1967), in general, alpha is a lower bound to the reliability of an unweighted scale of N items, namely the reliability of a scale can never be lower than alpha even if the items depart substantially from being Parallel measurement. Thus, in most situations alpha provides a conservative estimate of a measure's reliability (Carmines and Zeller, 1994). For this research, Cronbach's alpha was used as they index for assessing the reiability of the measurement scales since it is the most widely used estimator of reliability.

Generally an alpha value above 0.70 is recommended as an acceptable minimum threshold for reliability (Nunnally, 1978; Babin, 1994), but it is also argued that lower levels are acceptable (e.g., in the range of 0.50 to 0.60) in early stages of basic research (Babin, 1994; Nunnally, 1967; Robinson, Shaver and Wrightsman, 1991). Since this study is an early stage work of a basic research, alpha conefficient value of 0.50 was used as the minimum threshold.

5.6 Conclusion

In this chapter the methodologies used in the present research were introduced and various justification discussed. The basis of the methodologies followed from the systematic approach. Since the study intended to gather more in depth information about the relationship between CI and MSF, semi-structured interviews were conducted and questionnaire survey administrated with same procedures in both UK and Other European CI managers. In essence, both studies complemented each other. The strength of these methods relates to the fact that a "Purposive" sampling method was used to select the participants. The sampling strategy was directed at finding information-rich cases rather than towards randomisation. The route of secondary data was adopted where appropriate to support the findings of the other methods. The reliability and validity issues were also addressed. Descriptive analysis was proposed for analysing the data. Multiple regression analysis, independent *t* test, ANOVA test, and factor analysis were assumed as appropriate for the present research and will be discussed with all the details in the next chapter.

Chapter Six: Data Analysis and Hypotheses Testing

6.1 Introduction

This chapter presents empirical data analysis and deal with testing of the hypotheses. As discussed earlier, the main research tool was used is questionnaires. The analyses are concerned with the following key issues:

- The current status of competitive intelligence in European companies.
- The view of European senior managers towards competitive intelligence.
- The contribution of competitive intelligence to marketing strategy formulation.
- Whether competitive intelligence managers, consider competitive intelligence to be a key component of marketing strategy formulation.

Therefore, this chapter[1] consists of three main sections. The first section focuses upon the aspects of the data preparation for this study. Justifications for the choice of the statistical procedures adopted are highlighted. The second section focuses upon the descriptive analyses. In this section, the summarised statistical findings are presented, as a profile of the respondents was conducted, to establish the characteristics of the sample. Descriptive statistics are also presented to test for significant relationships; cross-tabulations together with the Pearson Chi-Square test are used to identify significant relationships at the 5% level.

In the third section, the three main research hypotheses stated in the previous chapter are tested, using the 'Inferential Statistics' of, t-test (Mann-Whitney test for cross validation), Two-way analysis of variance (ANOVA), Multiple Regression analysis, Factor analysis and Cronbach's Alpha for reliability.

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[1] The decision regarding the statistical analyses that were used in this chapter was made in consultation with Dr. Charles Cui-Chi of UMIST University and Professor Adamantios Diamantopoulos of Loughborough University.

Statistical Overview

As precise statistical procedures are important aspects of quantitative analysis, the data analysis and reporting was performed using standard statistical procedures as advocated by Trochim (2000). Trochim identified three main stages in an idealised statistical investigation:

- Data preparation (Cleaning and organising the data for analysis).
- Describing the data (Preliminary and descriptive analysis).
- Testing Hypotheses and Models (Inferential Statistics) in other words, analysis of relationships.

6.2 Data preparation

The data preparation for this research involved four main tools; checking the data for accuracy; entering the data into the computer; transforming the data; and developing a database structure.

Checking the data for accuracy: as soon as the questionnaires received, they were screened for accuracy. This process involved checking whether all the important questions answered, are the responses complete and are the responses readable. Therefore, 24 questionnaires were excluded from the analysis for accuracy reasons, leaving 227 questionnaires for analyses.

Entering the data into the computer: there are a wide variety of ways to enter the data into the computer for analysis. For this study, the researcher used a procedure called *double entry*. In this procedure the researcher entered the data once; and then the data entered for a second time and checks each second entry against the first. All the discrepancy was identified and the researcher determined the correct entry. This double entry procedure significantly reduces entry errors. The second procedure used called double-checking. In this procedure the researcher printed a copy of the data summary and then two different people for discrepancy

checked the copy of the data summary. All the discrepancy was identified and the researcher determined the correct entry.

Transforming the data: once the data have been entered it is almost always necessary to transform the raw data into variables that are usable in the analyses (Trochim, 2000). There are a wide variety of transformations that could be used. For this study, the researcher performed a transformation called missing values. Many analysis programs automatically treat blank values as missing. In others, researcher need to designate specific values to represent missing values. For this study, the researcher used SPSS program. As the SPSS program treat blank values as missing; the researcher ensured that there is no missing value in the data.

Developing a database structure: there are generally two options for storing data on computer, database programs and statistical programs. Usually database programs are the more complex of the two to learn and operate. For the present study, researcher generated a codebook that describes the data using statistical program SPSS. The codebook included the following items for each variable: name; address; format; method of collection; date collected and notes. With regard to descriptive analysis and inferential statistics please see section 6.2 for descriptive analysis and section 6.3 for inferential statistics.

6.3 Describing the data

Descriptive statistics are used to describe the basic features of the data in a study. They provide simple summaries about the sample and the measures. For the present study, three tools of descriptive analysis were used frequency distribution, measures of and central tendency and standard deviation.

6.3.1 Frequency and Means

Figure 6.1 illustrates the responses rate for the Questionnaires. The questionnaires were mailed to 302 UK CI managers and 504 Other European Managers with 227 being returned. Of these,

41.1% (94 respondents) were from the UK and 58.6% (133 respondents) were from Other European countries.

Figure 6.1 The Responses Rate

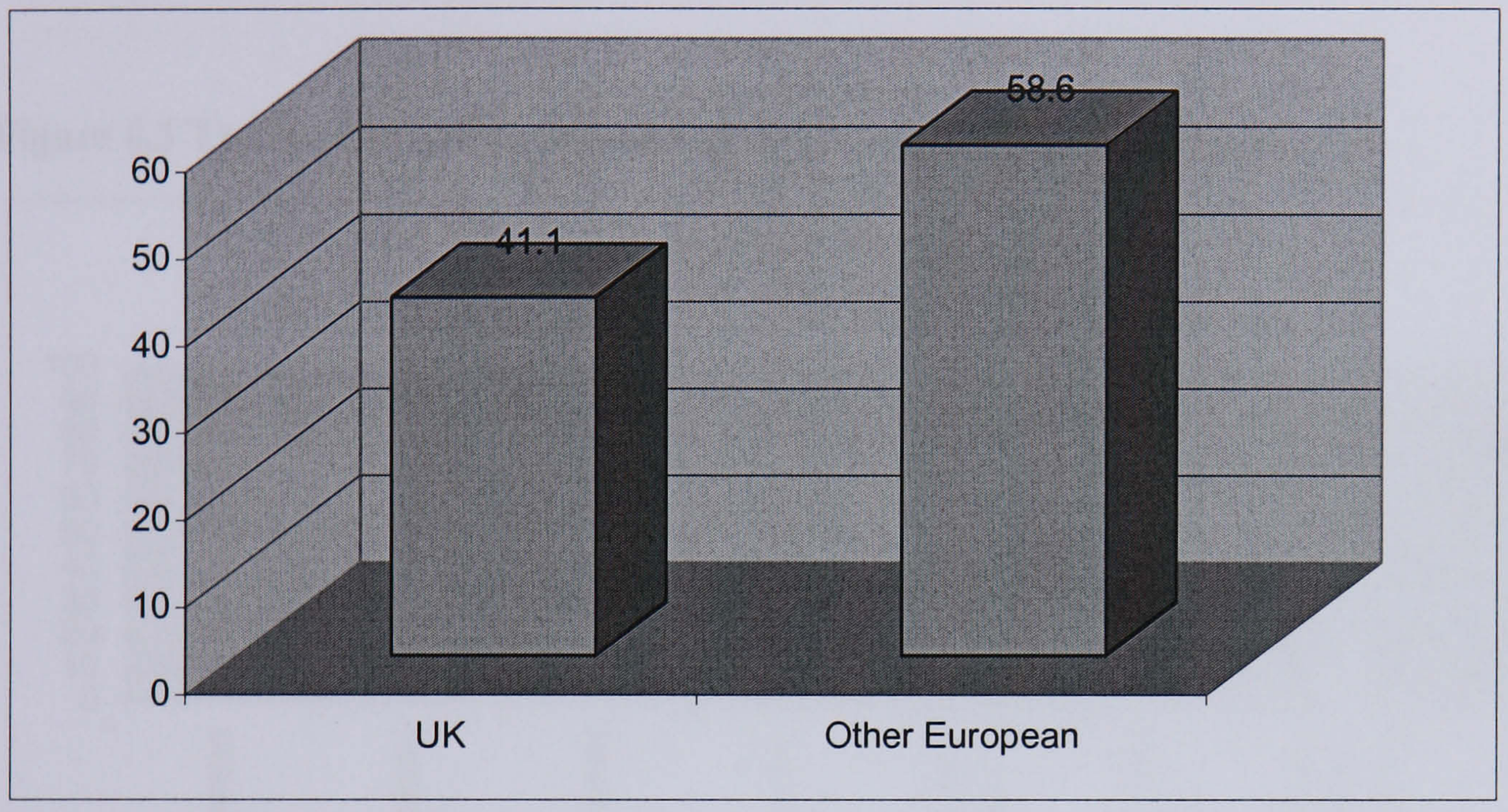
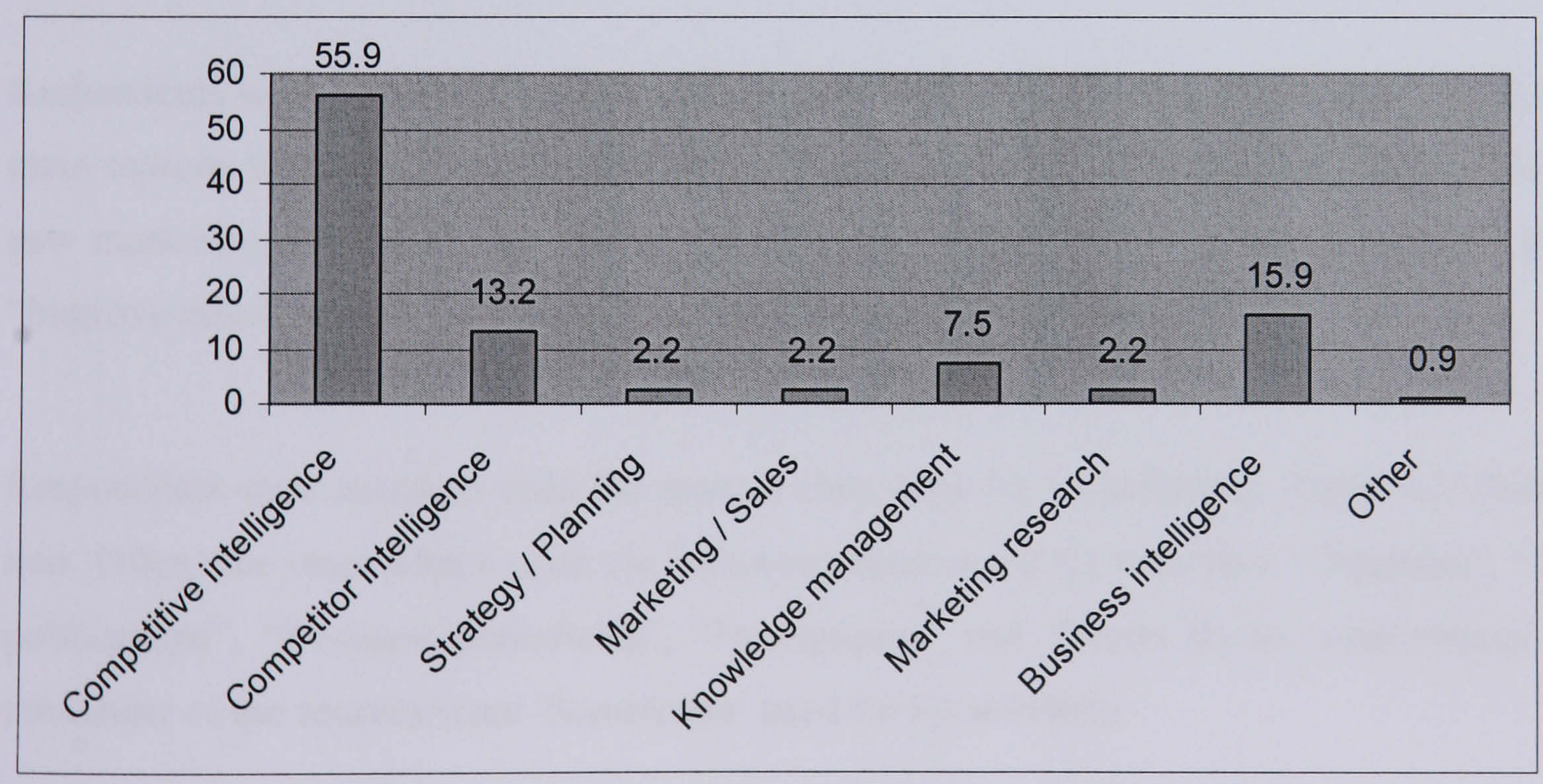
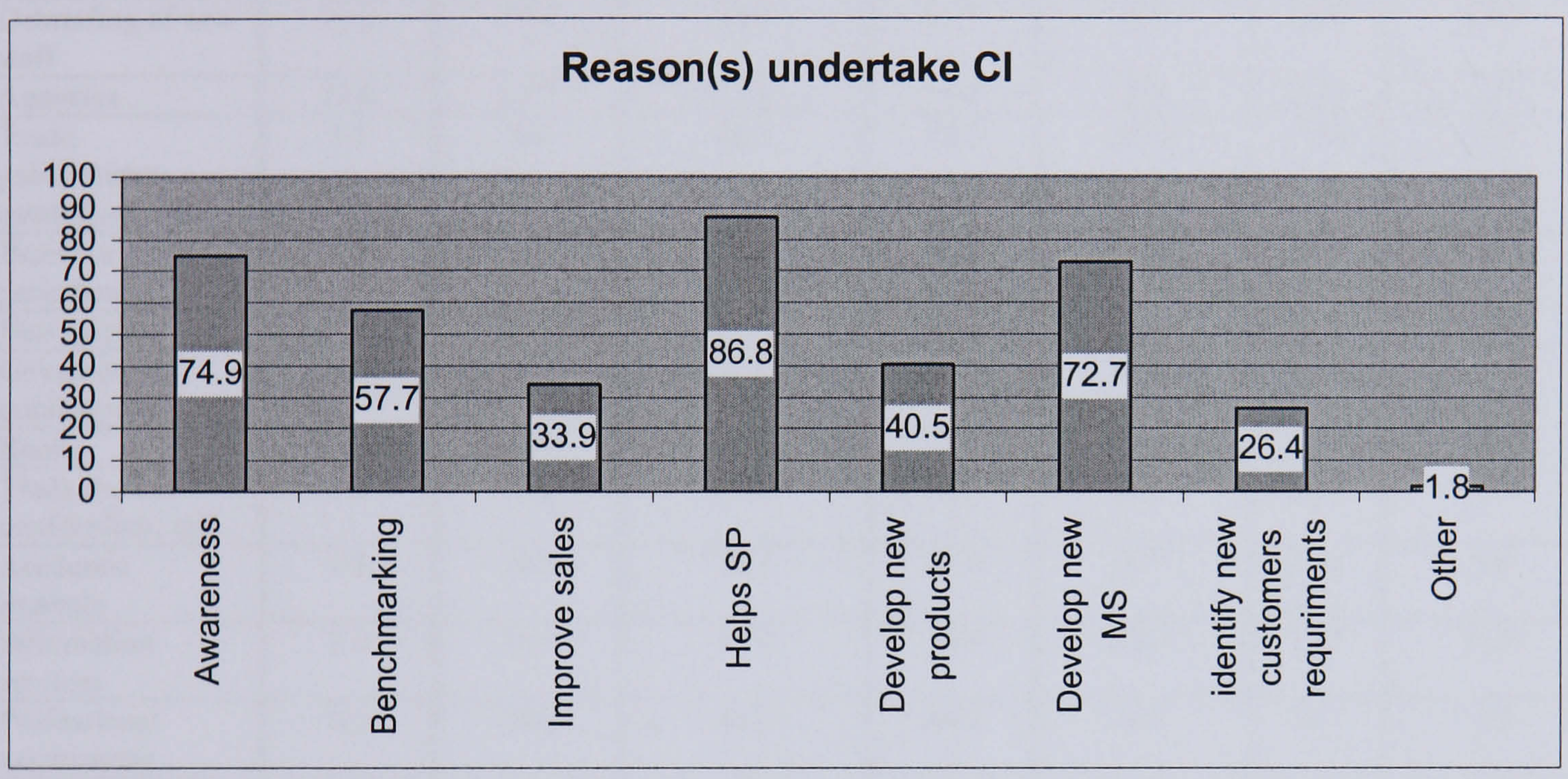


Figure 6.2 Name the activities of gathering & analysing information about competitors



As shown in Figure 6.2, 55.9% of the respondents called the activities of gathering and analysing information about competitors "Competitive Intelligence", 15.9% of the total respondents called it "Business Intelligence", and 13.2% of the total respondents called it "Competitors Intelligence".

Figure 6.3 The reason(s) companies undertake competitive intelligence.



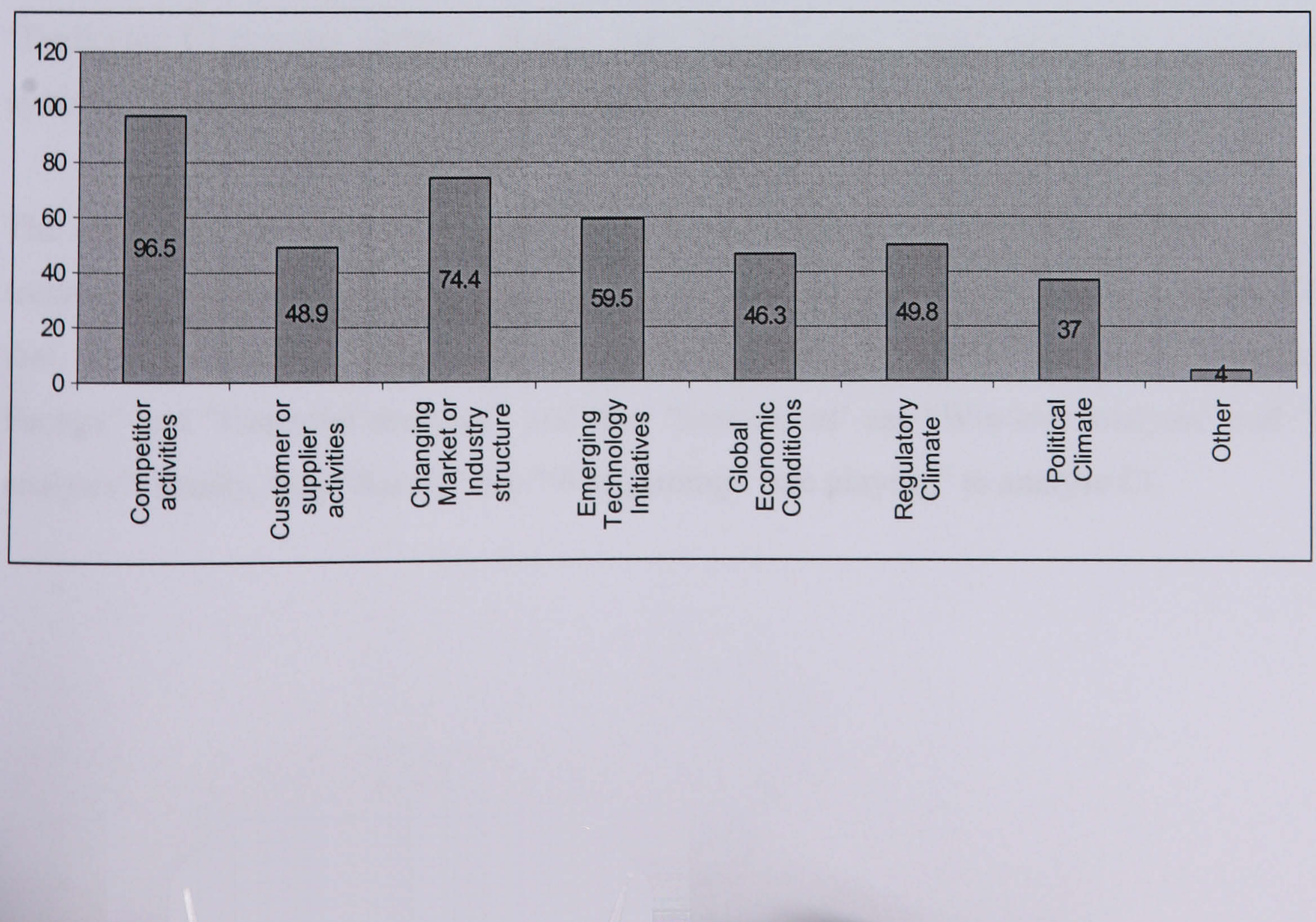
Respondents were asked to state the reasons for undertaking CI. Figure 6.3 illustrates that the main reasons were, 86.8% "Helps strategic planning", 74.9% "Awareness", 72.7% "Develop new marketing strategies", 57.7% "Benchmarking", 40.5% "Develop new products", 33.9% "Improve sales" and 26.5% "Identify new customers requirements".

Respondents were asked to state the sources they used for CI activities. Table 6.2 illustrates that 'Often' the respondents used the following sources for CI activities: "Database", "Trade publications", "Business periodicals", "Newspapers" and "Trade shows, conferences"; the remainder of the sources were 'Sometimes' used for CI activities.

Table 6.2 Sources used for CI

Variables	1=Never %	2=Rarely %	3=Sometimes %	4=Often %	5=V. often %	Mean	Std. Deviation
Customers	4.4	14.1	42.3	31.3	7.9	3.24	.94
Suppliers /distributors	5.3	19.8	48.0	20.7	6.2	3.03	.93
Consultants, bankers, lawyers, etc.	8.8	15.9	47.1	23.8	4.4	2.99	.96
Social contacts	4.8	24.7	45.4	18.1	7.0	2.98	.95
Databases	2.2	9.3	21.6	40.1	26.9	3.80	1.01
Debriefing of new staff	13.2	30.8	35.2	16.7	4.0	2.67	1.03
Agencies	11.0	31.3	37.0	18.5	2.2	2.70	.97
Trade publications, catalogues, etc.	1.3	6.6	26.4	42.3	23.3	3.80	.92
Business periodicals	1.8	4.4	29.1	42.7	22.0	3.79	.90
Newspapers	1.8	7.5	24.2	37.9	28.6	3.84	.98
Government publications	4.4	22.0	34.4	23.3	15.9	3.24	1.10
Books	10.1	45.8	24.2	12.8	7.0	2.61	1.06
Trade shows conferences, etc.	1.3	13.2	26.0	42.7	16.7	3.60	.96
Academic journals	4.8	18.5	47.6	19.4	9.7	3.11	.98
Information services	2.2	14.1	30.4	36.6	16.7	3.52	1.00
Professional associations	6.2	15.0	46.3	26.4	6.2	3.11	.95
Newsletters, memoranda	4.4	25.1	30.4	30.4	9.7	3.16	1.05
Internal reports	3.5	17.6	31.7	33.0	14.1	3.37	1.04
Other	00.0	00.0	00.0	00.0	00.0	00.0	00.0

Figure 6.4 Topics on which companies currently receive CI



As shown in Figure 6.4, 96.5% of the respondents stated that "Competitors activities" is the main topic which they currently receive CI, followed by 44.4% "Changing market or industry structure", 59.5% "Emerging technology initiatives", 49.8% "Regulatory climate", 48.9% "Customers or suppliers activities", 46.3% "Global economic conditions" and 37% "Political climate".

Table 6.3 Tools/systems used to acquire, access, store and share CI

Variables	Never %	Rarely %	Sometimes %	Often %	V. often %	Mean	Std. Deviation
Databases	2.2	8.4	14.5	39.6	35.2	3.97	1.02
Secure intranet	4.0	4.8	18.5	49.3	23.3	3.83	.97
Presentation software	8.8	19.4	35.2	26.4	10.1	3.10	1.10
Voice mail system	17.6	36.1	33.0	9.7	3.5	2.45	1.00
Fax machines, E-mail services	4.4	15.9	32.6	29.5	17.6	3.40	1.09
Group decision support systems	25.1	34.8	26.4	11.0	2.6	2.31	1.05
Dedicated CI process system	31.3	22.0	16.3	18.9	11.5	2.57	1.39
Other	00.0	00.0	00.0	00.0	00.0	00.0	00.0

The results of this table show that "Secure intranet" and "Database" are major tools/systems that CI managers use to acquire, access, store and share CI. Examination of the 'Mean' column revealed that, the CI managers 'Often' use "Database" and "Secure intranet"; moreover, they 'Sometimes' use "Presentation software", "Fax machine, E-mail" and "Dedicated CI process system"; finally, they 'Rarely' use "Voice mail" and "Group support systems", to acquire, access, store and share CI.

The results of Table 6.4 show that "Competitor profiling" and "SWOT analysis" are major techniques that CI managers use to analyse CI. Examination of the 'Mean' column revealed that, the CI managers 'Often' use "Competitor profiling", "SWOT analysis", "Key Success Factors" and "Financial analysis"; and they 'Sometimes' use "Win/lose analysis" and "STEP analysis"; finally, they 'Rarely' use "War gaming / role playing" to analyse CI.

Table 6.4 Techniques used to analyse CI

Variables	Never %	Rarely %	Sometimes %	Often %	Very often %	Mean	Std. Deviation
SWOT analysis	1.8	2.2	19.8	49.3	26.9	3.97	.85
Key Success Factors	4.0	5.3	26.9	41.0	22.9	3.74	1.00
Competitor profiling	00.0	4.0	13.7	45.4	37.0	4.15	.80
Financial analysis	00.0	6.6	33.5	38.8	21.1	3.74	.87
Win/lose analysis	9.7	29.5	38.3	15.4	7.0	2.81	1.04
STEP analysis	17.6	27.3	29.1	18.5	7.5	2.71	1.18
War gaming / role playing	39.2	28.6	15.4	11.0	5.7	2.15	1.22
Other	00.0	00.0	00.0	00.0	00.0	00.0	00.0

Respondents were asked to state what kind of measures would they use to measure the effectiveness of their CI activities. Figure 6.5 shows that 83.7% of the total respondents used "Action taken" as a performance measures, followed by 52.9% "Market share improvements", 30.4% "Financial goals met", 26.9% "Leads generated" and 24.7% "New products developed".

Figure 6.5 To measure the effectiveness of CI activities, what CI managers use as performance measures:

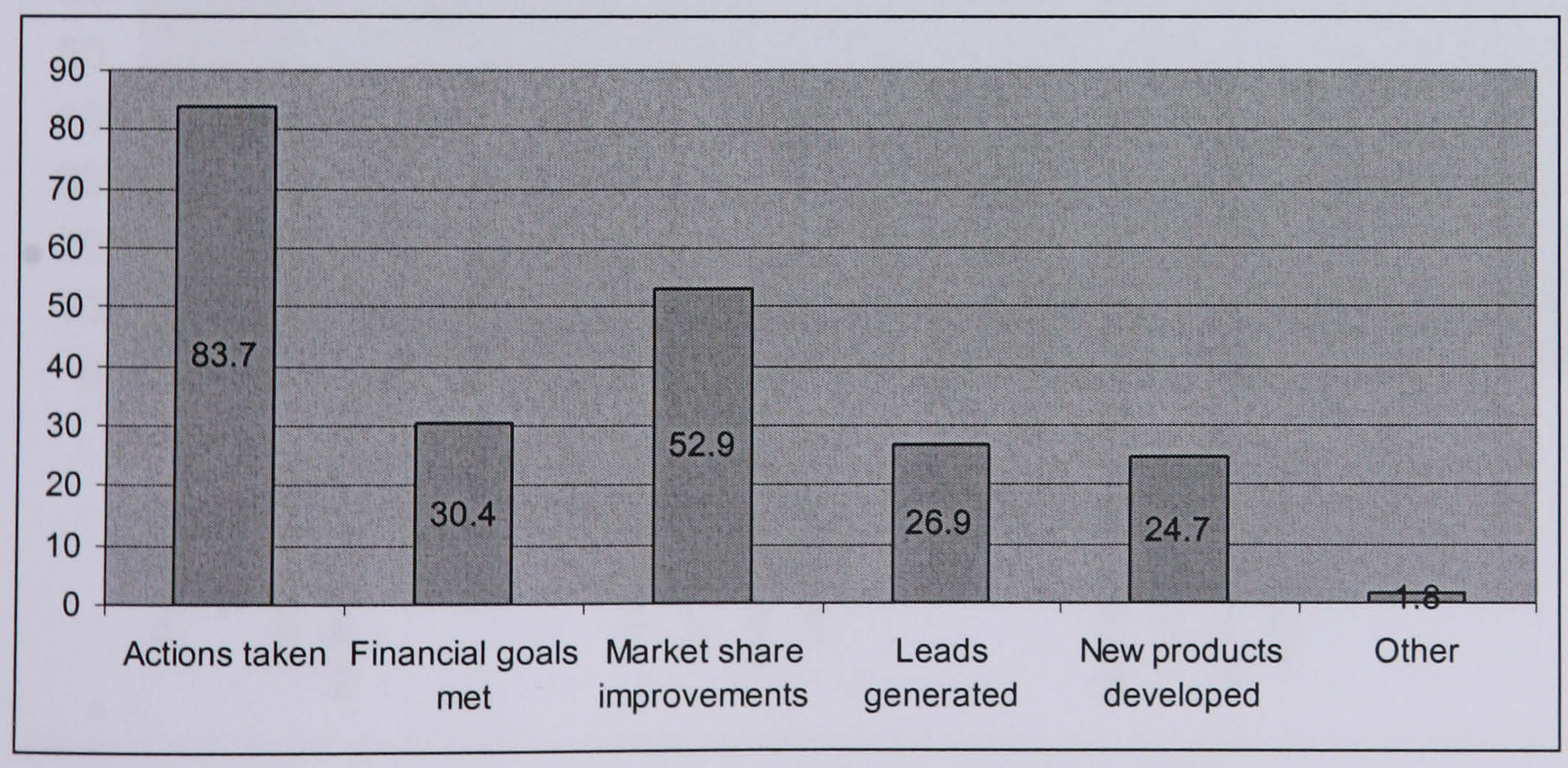
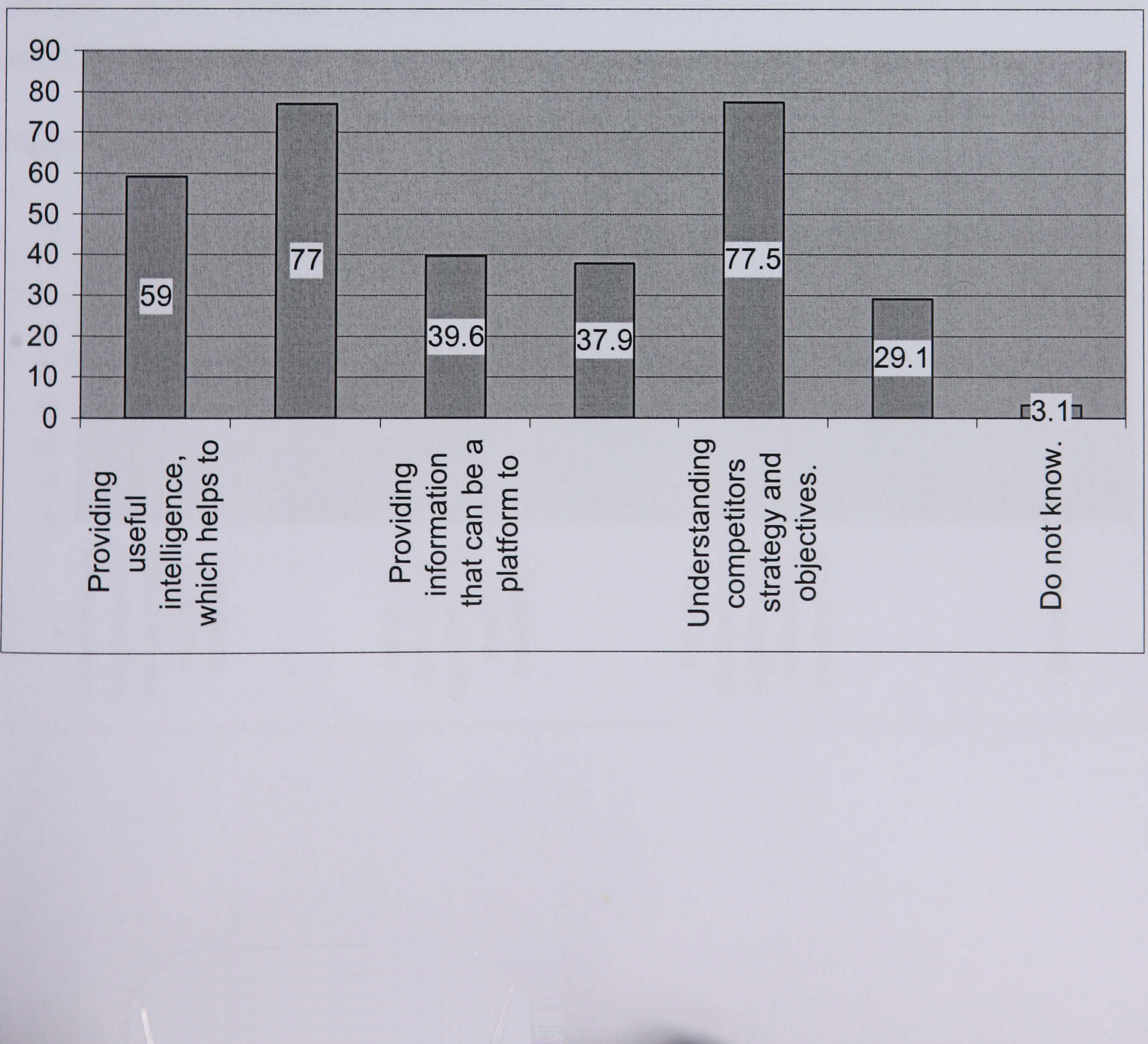


Table 6.5 To what extent does CI contribute to marketing strategy formulation process

Variables	Never %	Rarely %	Sometimes %	Often %	Very often %	Mean	Std. Deviation
Setting Marketing Objectives	1.8	15.9	46.7	30.0	5.7	3.22	.84
Strategic Analysis	00.0	3.1	15.4	56.8	24.7	4.03	.72
Strategic Decision Making	00.0	3.5	24.2	52.4	19.8	3.89	.76
Implementation and Control	5.7	20.7	39.2	30.0	4.4	3.07	.95

The results of this table show that 56% and 52.4% of the total respondents agreed that 'Often' CI contributes to "Strategic Analysis" and "Strategic decision making". Examination of the 'Mean' column revealed that, the CI managers agreed that 'Often' CI contributes to "Strategic Analysis" (Mean value of 4.03) and "Strategic decision making" (Mean value of 3.89). However, they believe that, CI 'Sometimes' contributes to "Setting marketing objectives" and "Implementation & control".

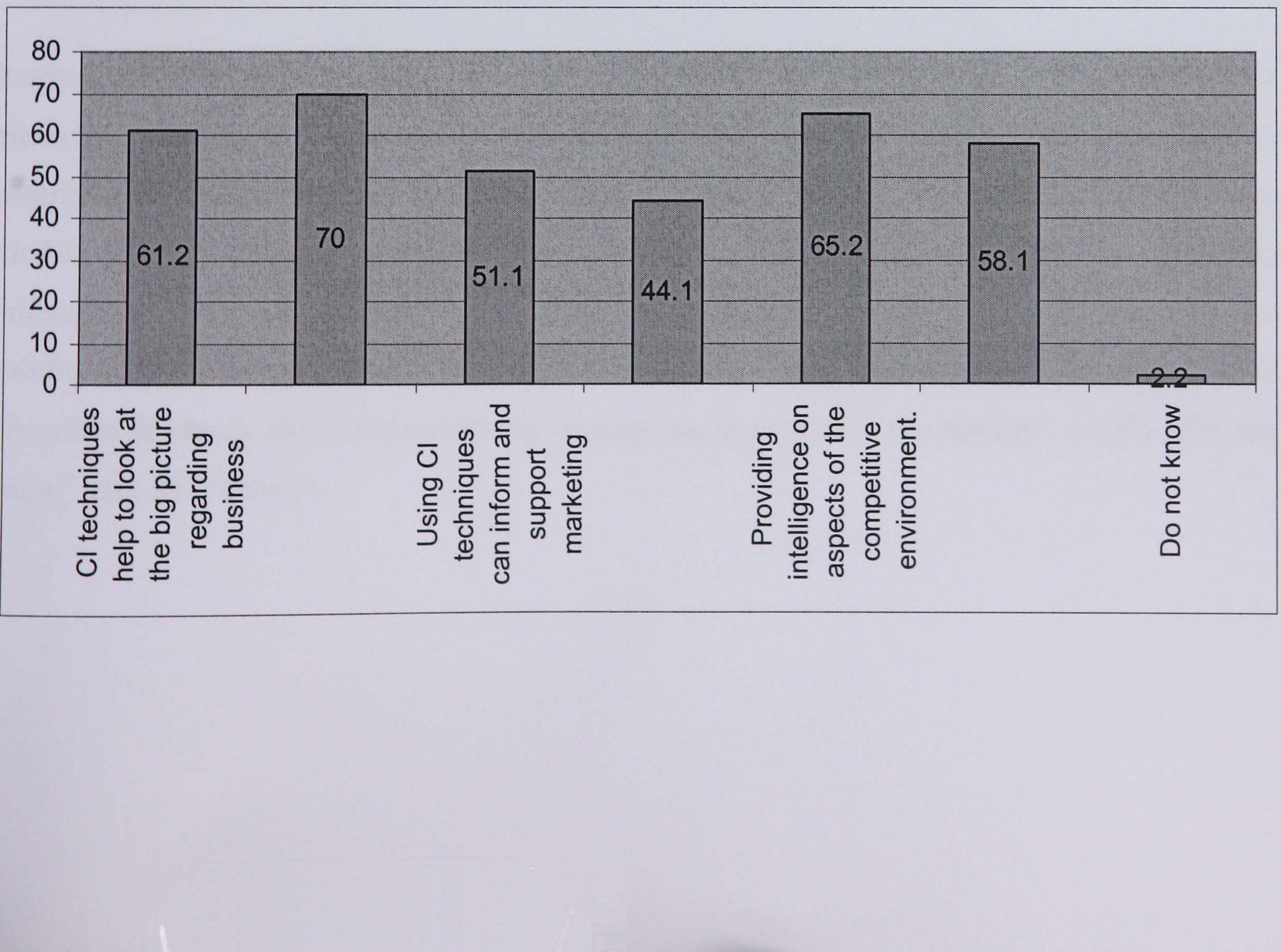
Figure 6.6 How does CI contribute to "Setting marketing objectives"



Regarding how does CI contribute to "Setting marketing objectives" Figure 6.6 shows that 77.5% of the total respondents state that CI contribute to 'Setting marketing objectives' by "Understanding competitors strategy and objectives", followed by 77% "CI helps to achieve better understanding of the business environment", 59% "Providing useful intelligence, which helps to set achievable, marketing objectives", 39.6% "Providing information that can be a platform to develop marketing objectives", 37.9% "Ensuring that marketing objectives are developed within a reality perspective", 29.1% "Help managers to develop sensible and achievable marketing objectives" and only 3.1% "Do not know".

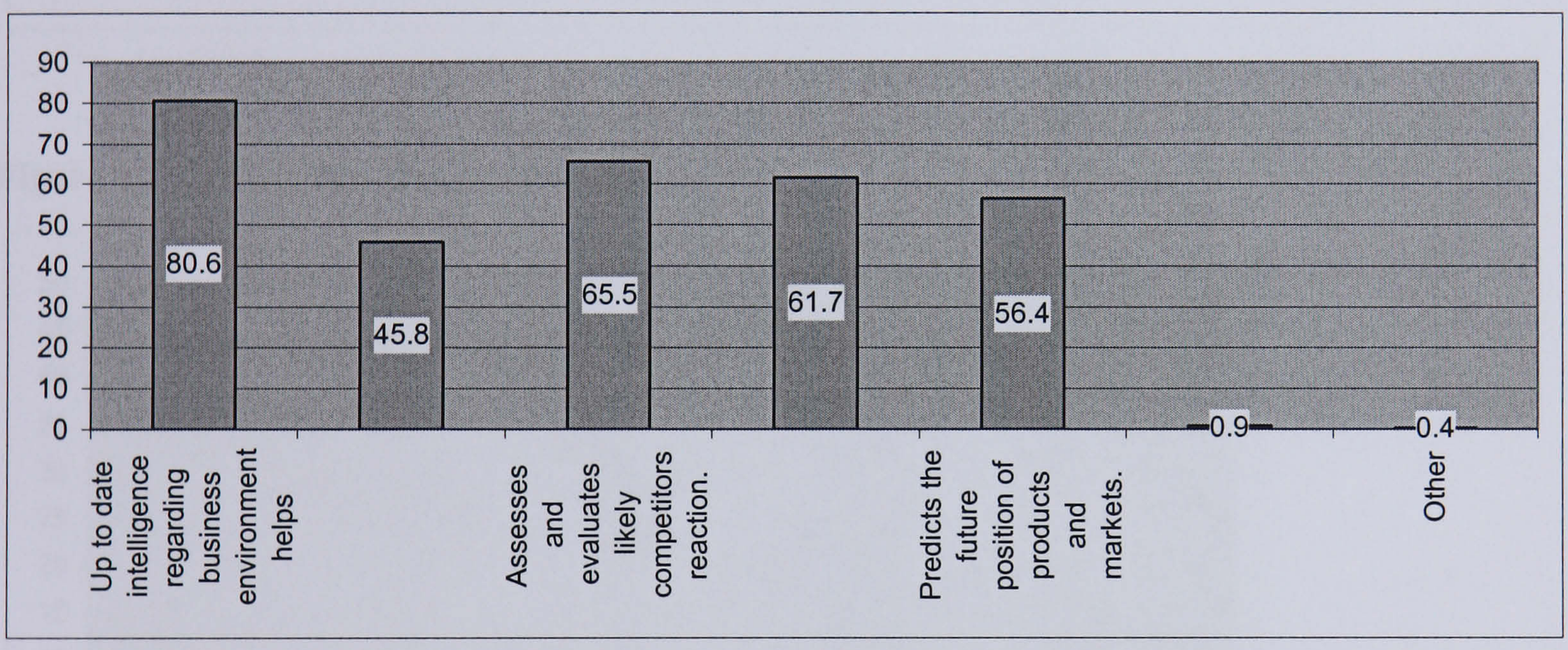
When respondents were asked to state how does CI contribute to 'Marketing strategy analysis' Figure 6.7 shows that 70% of the total respondents state that CI contribute to 'Marketing Strategy analysis' by "CI analysis helps in a better understanding of the business environment", followed by 65.2% "Providing intelligence on aspects of the competitive environment", 61.2% "CI techniques help to look at the big picture regarding business environment", 58.1% "Helps managers to identify opportunities in the market and anticipate competitors' moves", 51.1% "Using CI techniques can inform and support marketing analysis", 44.1% "provide clear understanding of the market and add value to the analysis" and 2.2% "Do not know".

Figure 6.7 How does CI contribute to "Marketing strategy analysis"



With regard to how does CI contribute to 'Strategic decision-making' Figure 6.8 shows that 80.6% of the total respondents state that CI contribute to 'Strategic decision-making' by "Up to date intelligence regarding business environment which helps managers to make their decisions", followed by 65.5% "Assesses and evaluates likely competitors reaction", 61.7% "Provides intelligence and suggestion to the senior managers", 56.4% "Predicts the future position of products and markets", 45.8% "Focuses on what to achieve in the market and how to go about it", 0.9% "Do not know" and 0.4% "Other".

Figure 6.8 How does CI contribute to Strategic decision-making



Respondents were asked to state how does CI contribute to 'Implementation & control of the marketing strategy'. Figure 6.9 shows that 60.8% of the total respondents state that CI contribute to 'Implementation & control of the marketing strategy' by "Indicators from CI are used as an early warning system to assess success or failure", followed by 53.7% "Provides information about competitors' reaction to the marketing strategy", 42.7% "Checking the validity of the strategy", 33.9% "Provides feedback to enable adjustments to be made", 33% "Provides feedback about the marketing strategy performance in the market", 11.5% "Do not know" and .9% "Other".

Figure 6.9 How does CI contribute to Implementing & Control of the marketing strategy

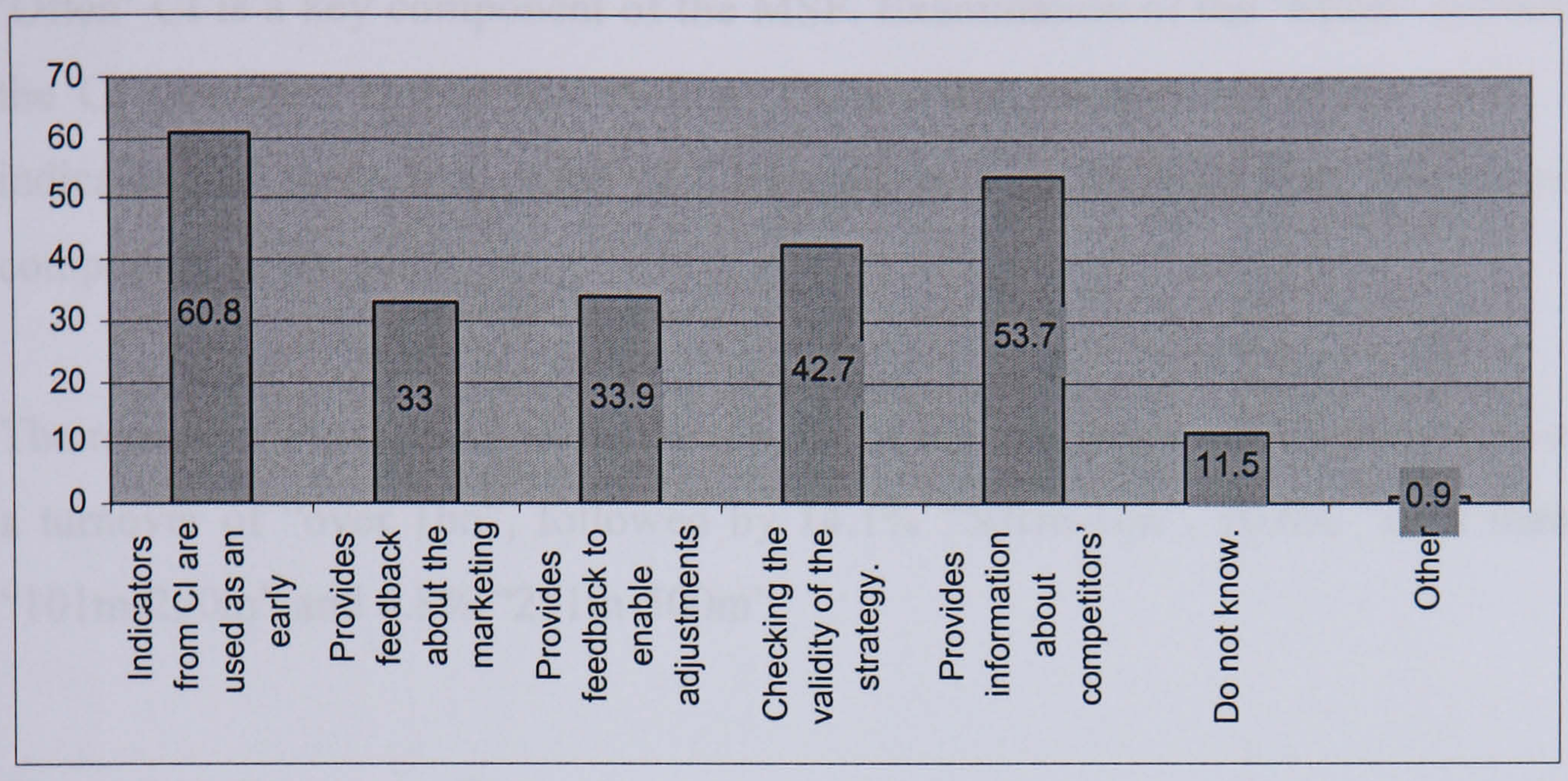


Figure 6.10 Is CI a Key component of MSF

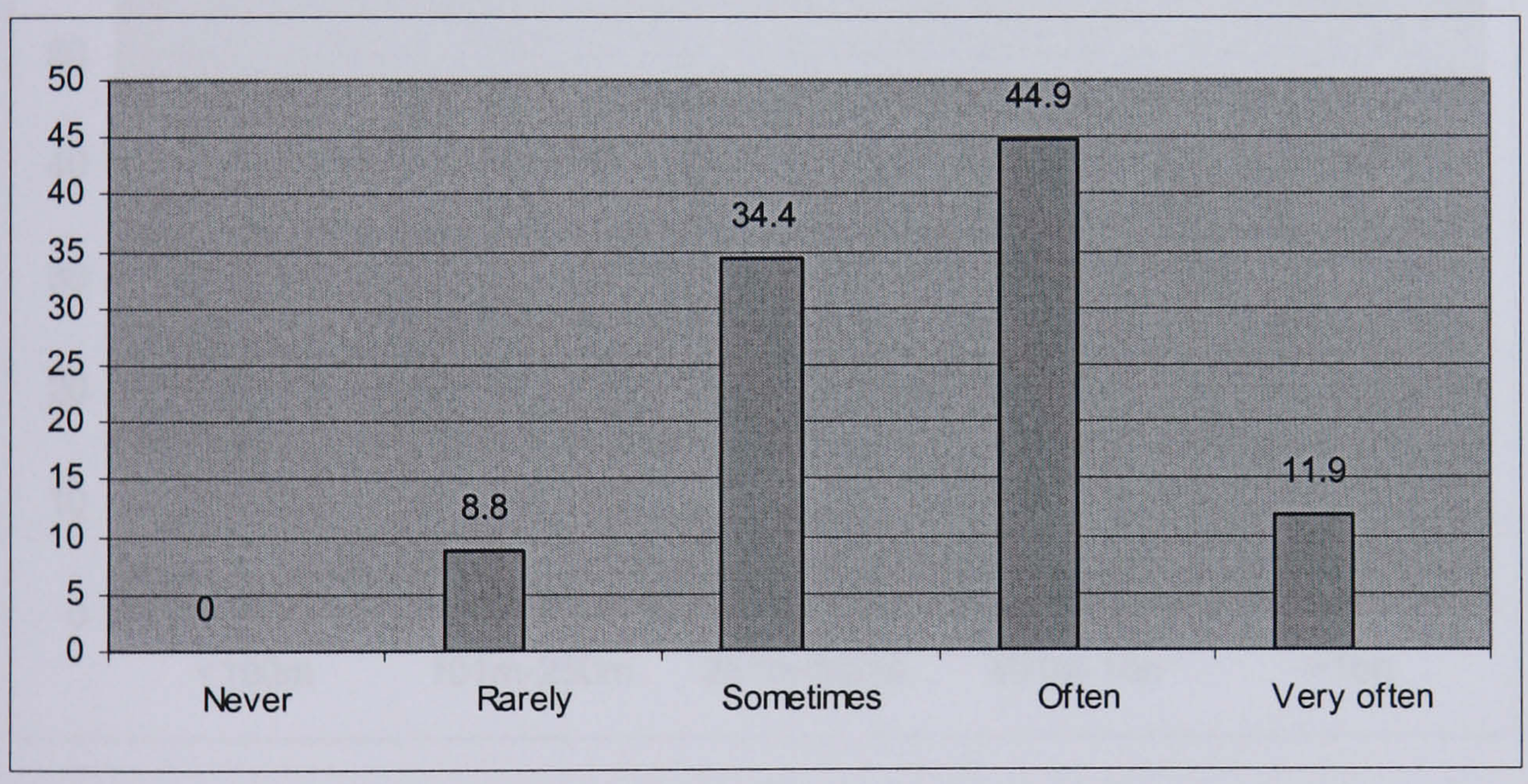


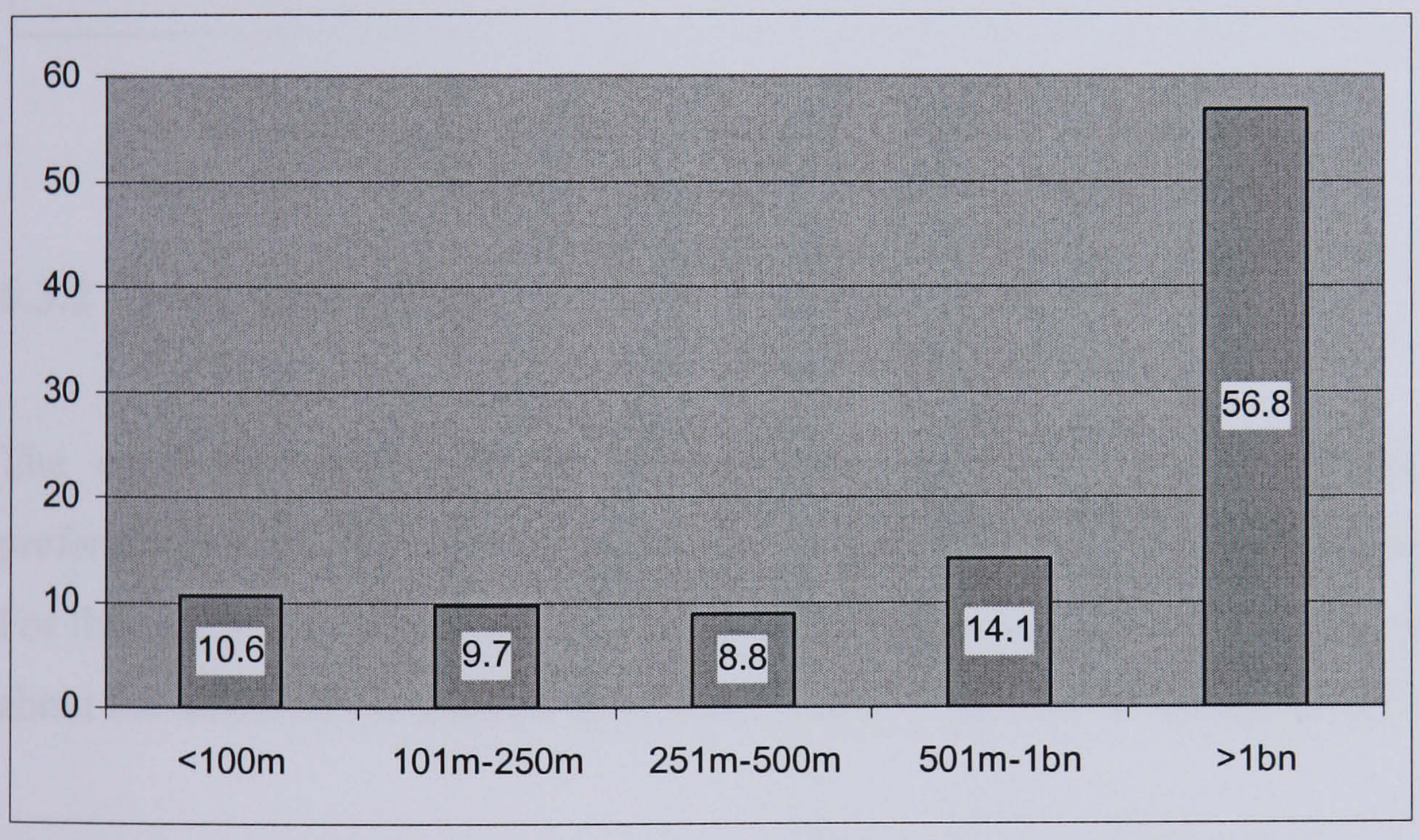
Table 6.6 Is CI a Key component of the MSF

Variables	Never %	Rarely %	Sometimes %	Often %	Very often %	Mean	Std. Deviation
Is CI a key component of the MSF	00.0	8.8	34.4	44.9	11.9	3.60	.81

The results of Table 6.6 and Figure 6.10 show that 44.9% of the total respondents agreed that 'Often' CI is a key component of the MSF. Examination of the 'Mean' column revealed that, the CI managers agreed that 'Often' CI is a key component of the MSF. The table also indicates that there is a group of CI managers who believes that 'Sometimes' CI is a key component of the MSF.

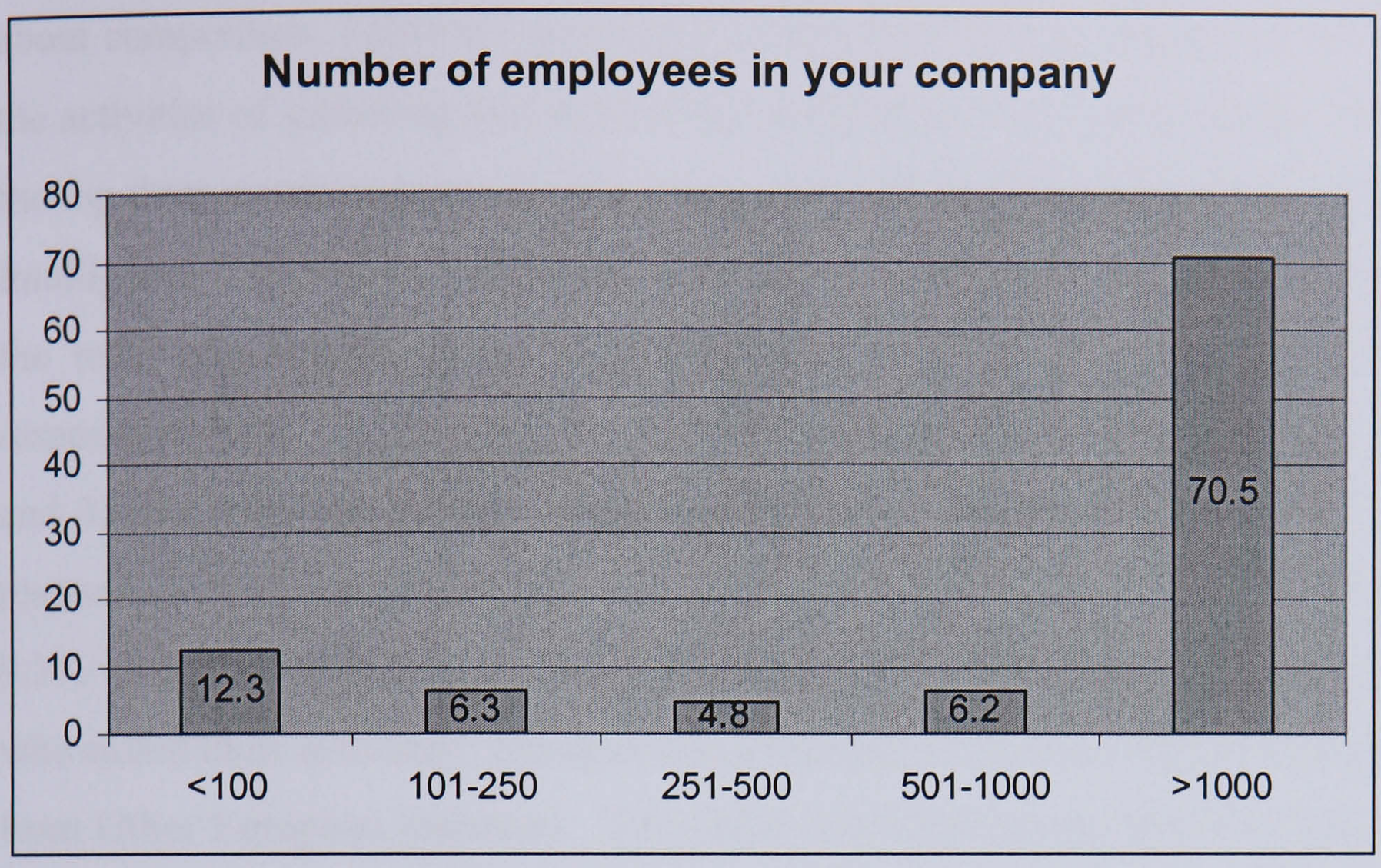
The results of Figure 6.11 show that 56.8% of the total respondents were from companies with a turnover of "over 1bn", followed by 14.1% "501m-1bn", 10.6% "Less than 100m", 9.7% "101m-250m" and 8.8% "251m-500m".

Figure 6.11 Companies Turnover



The results of Figure 6.12 show that 70.5% of the total respondents were from companies with a number of employees "Over 1000 employees", followed by 12.3% "Less 100 employees", 6.3% "101-250", 6.2% "501-1000", and 4.8% "251-500".

Figure 6.12 Number of employees



6.3.2 Cross-tabulations

The cross-tabulation presentation facilitates inferences about the population and their preferences. It's often able to gain some insight about the relationship between two variables. For this study, the researcher performed cross-tabulation analysis in order to gain some insight about the affect of the country and the company's sizes on the respondents' answers.

Although it is a useful step to compare the various rows and column percentages in a cross-tabulation, row and column percentages do not allow for the quantification of testing any relationships. In these instances, it is useful to consider a statistical test of the hypothesis that there is no association. A statistic often used to test the hypothesis that row and column variables are independent is the Pearson Chi-square. Therefore, the Pearson Chi-square tests were conducted on the cross-tabulated variables where appropriate. In keeping with good statistical practice only significant relationships at the 5% level will be accepted, and referred to in this part.

With regard to what do CI managers call the activities of gathering and analysing information about competitors. Table 6.7 presents a cross-tabulation by country of what companies called the activities of gathering and analysing information about competitors. The result shows that the top three answers were, 55.9% of the total respondents called their activities "Competitive Intelligence", 15.9% of the total respondents called it "Business Intelligence", and 13.2% of the total respondents called it "Competitors Intelligence". From the 55.9% of the total respondents who called their activities "Competitive Intelligence", 22.9% were from the UK and 33.0% were from Other European countries. In addition, from the 15.9% of the total respondents who called their activities "Business Intelligence", 6.6% were from the UK and 9.3% were from Other European countries. Moreover, from the 13.2% of the total respondents who called their activities "Competitors Intelligence", 6.6% were from the UK and 6.6% were from Other European countries. Therefore, the result shows that the most common name for UK and Other European companies regarding the activities of gathering and analysing information about competitors is "Competitive Intelligence".

Table 6.7 Cross-tabulation by country and company size regarding what CI managers call the activities of gathering and analysing information about competitors

Q1 in Percentage	COUNTRIES			TURNOVER					
Variable	**UK**	**European**	**Total**	**<100m**	**101-250**	**251-500**	**501-1bn**	**>1bn**	**Total**
Competitive intelligence	40.9 *22.9*	59.1 *33.0*	**100** ***55.9***	13.4 *7.5*	8.7 *4.8*	7.9 *4.4*	13.4 *7.5*	56.7 *31.7*	**100.0** ***55.9***
Competitor intelligence	50.0 *6.6*	50.0 *6.6*	**100** ***13.2***	6.7 *.9*	16.7 *2.2*	13.3 *1.8*	20.0 *2.6*	43.3 *5.7*	**100.0** ***13.2***
Strategy / Planning	20.0 *.4*	80.0 *1.8*	**100** ***2.2***	20.0 *.4*	00.0 *00.0*	00.0 *00.0*	00.0 *00.0*	80.0 *1.8*	**100.0** ***2.2***
Marketing / Sales	60.0 *1.3*	40.0 *.9*	**100** ***2.2***	00.0 *00.0*	20.0 *.4*	40.0 *.9*	00.0 *00.0*	40.0 *.9*	**100.0** ***2.2***
Knowledge management	23.5 *1.8*	76.5 *5.7*	**100** ***7.5***	11.8 *.9*	5.9 *.4*	00.0 *00.0*	17.6 *1.3*	64.7 *4.8*	**100.0** ***7.5***
Marketing research	40.0 *.09*	60.0 *1.3*	**100** ***2.2***	20.0 *.4*	40.0 *.9*	00.0 *00.0*	40.0 *.9*	00.0 *00.0*	**100.0** ***2.2***
Business intelligence	41.7 *6.6*	58.3 *9.3*	**100** ***15.9***	2.8 *.4*	5.6 *.9*	11.1 *1.8*	11.1 *1.8*	69.4 *11.0*	**100.0** ***15.9***
Other	100.0 *.9*	00 *00*	**100** ***.9***	00.0 *00.0*	00.0 *00.0*	00.0 *00.0*	00.0 *00.0*	100.0 *.9*	**100.0** ***.9***
Total	**41.4**	**58.6**	**100**	**10.6**	**9.7**	**8.8**	**14.1**	**56.8**	**100.0**

Normal: % Within Variables.
Italic: % of Total.

Using Chi-Square test, the results of the analysis indicate there is no significant form of association at the 5% level.

In order to determine if the company size had an affect on what they considered their activities to be called, a cross-tabulation by company turnover was carried out, and the results also presented in Table 6.7. Examination of the Table 6.7 revealed that, from the 55.9% of the total respondents who called their activities "Competitive Intelligence", 31.7% were companies with turnover of "Over 1bn"; 7.5% were companies with turnover of "501m – 1bn"; 4.4% were companies with turnover of "251m – 500m"; 4.8% were companies with turnover of "101m – 250m"; and 7.5% were companies with turnover of "Less than 100m". This result indicates that the bigger companies in terms of turnover are more likely to call the activities of gathering and analysing information about competitors "Competitive intelligence".

With regard to what are the main reason(s) why company undertakes CI. The cross-tabulated data shows (Table 6.8) that the top three reasons were, 86.8% "Help strategic planning process", 74.9% "Awareness", and 72.7% "Develop new marketing strategies & tactics". From the 86.8% of the total respondents who use CI for "Help strategic planning process", 37.0% were from the UK and 49.8% were from Other European countries. In addition, from the 74.9% of the total respondents who use CI for "Awareness", 38.3% were from the UK and 36.6% were from Other European countries. This result indicates that companies in the UK are more likely to use their CI activities for awareness of all the changes happing in the market, compared to the Other European companies. Moreover, from the 72.7% of the total respondents who use CI for "Develop new marketing strategies & tactics", 27.3 were from the UK and 45.4% were from Other European countries. This result indicates that companies in the UK are less likely to use their CI activities for "Develop new marketing strategies & tactics", compared to the Other European companies. Therefore, the result shows that, UK and Other European CI managers are likely to use CI to help their strategic planning process, and to improve and develop marketing strategies and tactics, as well as, to be aware of all the changes happing in the marketplace, which in the end will help their company performance.

In order to determine if the company size had an affect on reason(s) why they undertake CI, a cross-tabulation by company turnover was carried out, and the results also presented in Table 6.8. Examination of the Table 6.8 revealed that, from the 86.8% of the total respondents who considered the main reason for undertaking CI is "Help strategic planning process", 52.2%

were companies with turnover of "Over 1bn"; 11.9% were companies with turnover of "501m – 1bn"; 8.4% were companies with turnover of "251m – 500m"; 9.3% were companies with turnover of "101m – 250m"; and 7.0% were companies with turnover of "Less than 100m". These results indicate that the bigger companies in terms of turnover are more likely to use CI to help their strategic planning process, and to improve and develop marketing strategies and tactics.

Table 6.8 Cross-tabulation by country and company size regarding the main reason(s) why companies undertake CI

Q3 in Percentage	COUNTRIES			TURNOVER					
Variable	**UK**	**European**	**Total**	**<100m**	**101-250**	**251-500**	**501-1bn**	**>1bn**	**Total**
Awareness***	51.2 *38.3*	48.8 *36.6*	**100** ***74.9***	8.2 *6.2*	12.9 *9.7*	10.0 *7.5*	14.7 *11.0*	54.1 *40.5*	**100** ***74.9***
Benchmarking**	48.1 *27.8*	51.9 *30.0*	**100** ***57.7***	9.9 *5.7*	10.7 *6.2*	9.9 *5.7*	11.5 *6.6*	58.0 *33.5*	**100** ***57.7***
Improve sales***	59.7 *20.3*	40.3 *13.7*	**100** ***33.9***	9.1 *3.1*	10.4 *3.5*	5.2 *1.8*	16.9 *5.7*	58.4 *19.8*	**100** ***33.9***
Help strategic planning process	42.6 *37.0*	57.4 *49.8*	**100** ***86.8***	8.1 *7.0*	10.7 *9.3*	9.6 *8.4*	13.7 *11.9*	57.9 *50.2*	**100** ***86.8***
Develop new products	48.9 *19.8*	51.1 *20.7*	**100** ***40.5***	12.0 *4.8*	10.9 *4.4*	6.5 *2.6*	16.3 *6.6*	54.3 *22.0*	**100** ***40.5***
Develop new marketing strategies & tactics	37.6 *27.3*	62.4 *45.4*	**100** ***72.7***	12.7 *9.3*	9.1 *6.6*	7.9 *5.7*	13.3 *9.7*	57.0 *41.4*	**100** ***72.7***
Identify new customer requirements***	60.0 *15.9*	40.0 *10.6*	**100** ***26.4***	18.3 *4.8*	10.0 *2.6*	5.0 *1.3*	8.3 *2.2*	58.3 *15.4*	**100** ***26.4***
Other	50.0 *.9*	50.0 *.9*	**100** ***1.8***	50.0 *.9*	00 *00*	00 *00*	00 *00*	50.0 *.9*	**100** ***1.8***

Normal: % Within Variables.
Italic: % of Total.

** Using Chi-Square test, the results of the analysis indicate there is a statistically significant form of association at the 5% level.
*** Using Chi-Square test, the results of the analysis indicate there is a statistically significant form of association at the 1% level.

With regard to the attitudes of the European senior managers about CI in their companies. The results from respondents were cross-tabulated by country and displayed in Table 6.9. The statistical results indicate that, 78.4% of the total respondents "Don't know" whether the senior managers in their companies consider CI as an, "essential component of marketing strategy formulation". From this 78.4%, 26.4% were from the UK and 52.0% were from Other European. In addition, 79.7% of the total respondents "Don't know" whether the senior

managers in their companies consider CI as an, "essential input to strategic decision making", from this result, 30.0% were from the UK and 49.8% were from Other European countries.

Table 6.9 also shows that, 76.7% of the respondents believe it is "Untrue" that the senior managers in their companies consider CI as "contributes only marginally to strategic decision making". From this 76.7%, 26.0% were from the UK and 50.7% were from Other European. Moreover, Table 6.9 shows that, the total respondents believe it is "True" that the senior managers in their companies consider CI as "an ethical and above-board activity". On the other hand, Table 6.9 shows that, the total respondents believe it is "Untrue" that the senior managers in their companies consider CI as, "contributes only marginally to tactical decision making", "contributes only marginally to strategic decision making", "CI crosses the boundaries of acceptable business behaviour", "CI makes little measurable contribution" and "CI is best handled by front-line managers". However, the results in Table 6.9 show that, there is confusion among the respondents regarding whether the senior managers in their companies believe that "essential component of marketing strategy formulation", "essential input to strategic decision making", "essential input to tactical decision making", "effort put into CI is worth the return" and "CI is a professional discipline in its own right", as most of the answers were between "Don't know" and "Undecided".

It is important to point out that, cross-tabulations with company's size (turnover) were also carried out and the results presents in Appendix 10 (Table 1).

Regarding to what are the different topics on which companies currently receive CI? The results from respondents regarding this question were cross-tabulated by country and displayed in Table 6.10. The statistical analysis point out that the highest three topics were, 96.5% "Competitor activities", 74.4% "Changing Market or Industry structure", and 59.5% "Emerging Technology Initiatives". From the 96.5% of the total respondents who currently receive CI from the topic "Competitor activities", 39.2% were from the UK and 57.3% were from Other European countries.

Table 6.9 Cross-tabulation by country regarding the attitudes of European senior managers about CI in their companies

Q4	UNITED KINGDOM					OTHER EUROPEAN					TOTAL			
Variable	**Untrue**	**Undecided**	**True**	**Don't know**	**Total**	**Untrue**	**Undecided**	**True**	**Don't know**	**Total**	**Untrue**	**Undecided**	**True**	**Don't know**
Essential component of MSF***	57.1 *1.8*	68.4 *11.5*	100 *1.8*	33.7 *26.4*	**41.4** ***41.4***	00.0 *00.0*	31.6 *5.3*	42.9 *1.3*	66.3 *52.0*	**58.6** ***58.6***	100.0 *1.8*	100.0 *16.7*	100.0 *3.1*	100 *78.4*
Essential input of SDM**	22.2 *.9*	63.6 *9.3*	75.0 *1.3*	37.6 *30.0*	**41.4** ***41.4***	25.0 *.4*	77.8 *3.1*	36.4 *5.3*	62.4 *49.8*	**58.6** ***58.6***	100.0 *1.2*	100.0 *12.4*	100.0 *6.7*	100 *79.7*
Contributes marginally to SDM***	33.9 *26.0*	81.0 *7.5*	75.0 *1.3*	53.6 *6.6*	**41.4** ***41.4***	66.1 *50.7*	19.0 *1.8*	25.0 *.4*	46.4 *5.7*	**58.6** ***58.6***	100.0 *76.7*	100.0 *9.3*	100.0 *1.7*	100 *12.3*
Essential input of TDM	38.5 *2.2*	57.4 *13.7*	40.9 *4.0*	35.5 *21.6*	**41.4** ***41.4***	61.5 *3.5*	59.1 *5.7*	42.6 *10.1*	64.5 *39.2*	**58.6** ***58.6***	100.0 *5.7*	100.0 *19.4*	100.0 *14.1*	100 *60.8*
Contributes marginally to TDM	37.9 *17.2*	43.8 *12.3*	38.7 *5.3*	51.7 *6.6*	**41.4** ***41.4***	62.1 *28.2*	56.3 *15.9*	48.3 *6.2*	61.3 *8.4*	**58.6** ***58.6***	100.0 *45.4*	100.0 *28.2*	100.0 *11.4*	100 *15.0*
Crosses the boundaries***	50.7 *30.0*	44.1 *6.6*	12.5 *1.3*	22.9 *3.5*	**41.4** ***41.4***	49.3 *29.1*	55.9 *8.4*	87.5 *9.3*	77.1 *11.9*	**58.6** ***58.6***	100.0 *59.0*	100.0 *15.0*	100.0 *10.6*	100 *15.4*
Little measurable contribution***	49.0 *22.5*	39.5 *13.2*	21.1 *1.8*	32.1 *4.0*	**41.4** ***41.4***	51.0 *23.3*	60.5 *20.3*	78.9 *6.6*	67.9 *8.4*	**58.6** ***58.6***	100.0 *45.8*	100.0 *33.5*	100.0 *8.4*	100 *12.3*
Effort worth the return	33.3 *.4*	48.1 *11.0*	12.5 *.9*	42.3 *29.1*	**41.4** ***41.4***	66.7 *.9*	51.9 *11.9*	87.5 *6.2*	57.7 *39.6*	**58.6** ***58.6***	100.0 *1.3*	100.0 *22.9*	100.0 *7.1*	100 *68.7*
Professional discipline	36.4 *7.0*	47.1 *10.6*	46.7 *6.2*	39.2 *17.6*	**41.4** ***41.4***	63.6 *12.3*	52.9 *11.9*	53.3 *7.0*	60.8 *27.3*	**58.6** ***58.6***	100.0 *19.4*	100.0 *22.5*	100.0 *13.2*	100 *44.9*
Best handled by front line mgrs	45.8 *16.7*	38.8 *11.5*	28.6 *4.4*	47.6 *8.8*	**41.4** ***41.4***	54.2 *19.8*	61.2 *18.1*	52.4 *9.7*	71.4 *11.0*	**58.6** ***58.6***	100.0 *35.6*	100.0 *29.5*	100.0 *14.1*	100 *18.8*
Ethical activity	13.3 *.9*	27.3 *4.0*	53.3 *35.7*	7.4 *.9*	**41.4** ***41.4***	86.7 *5.7*	72.7 *10.6*	46.7 *31.3*	92.6 *11.0*	**58.6** ***58.6***	100.0 *6.6*	100.0 *14.5*	100.0 *67.0*	100 *11.9*

Normal: % Within Variables.
Italic: % of Total.

** Using Chi-Square test, the results of the analysis indicate there is a statistically significant form of association at the 5% level.

*** Using Chi-Square test, the results of the analysis indicate there is a statistically significant form of association at the 1% level.

In addition, from the 74.4% of the total respondents who currently receive CI from the topic "Changing Market or Industry structure", 33.5% were from the UK and 41.0% were from Other European countries. Moreover, from the 59.5% of the total respondents who currently receive CI from the topic "Emerging Technology Initiatives", 22.9% were from the UK and 36.9% were from Other European countries. Therefore, the results indicated that the most topics, which UK and Other European CI managers currently receive are, "Competitor activities", "Changing Market or Industry structure", and "Emerging Technology Initiatives".

In order to establish if the company size had an affect on the different topics on which CI managers currently receive CI, a cross-tabulation by company turnover was carried out, and the results also presented in Table 6.10. Examination of the Table 6.10 revealed that, from the 96.5% of the total respondents who currently receive CI from the topic "Competitor activities", 55.1% were companies with turnover of "Over 1bn"; 14.1% were companies with turnover of "501m – 1bn"; 7.5% were companies with turnover of "251m – 500m"; 9.7% were companies with turnover of "101m – 250m"; and 10.1% were companies with turnover of "Less than 100m". These results indicate that the bigger companies in terms of turnover are more likely to receive CI from the topics "Competitor activities", "Changing Market or Industry structure", and "Emerging Technology Initiatives".

Regarding to what kind of tools/systems do you use to acquire, access, store and share CI? The results from respondents regarding the tools/systems they use to acquire, access, store and share CI were cross-tabulated by country and displayed in Table 6.11. The statistical results indicate that, 39.6% of the total respondents 'Often' and 35.3% of the total respondents 'Very often' use "Databases" to acquire, access, store and share CI. From this 39.6%, 14.5% were from the UK and 25.1% were from Other European countries. This result also indicates that the CI managers in UK and Other European companies 'Often' to 'Very Often' use "Databases" to acquire, access, store and share CI. With regard to "Secure intranet", 49.3% of the total respondents believe they 'Often' use "Secure intranet" to acquire, access, store and share CI.

Table 6.10 Cross-tabulation by country and company size regarding the different topics on which companies currently receive CI

Q6 in Percentage	COUNTRIES			TURNOVER					
Variable	**UK**	**European**	**Total**	**<100m**	**101-250**	**251-500**	**501-1bn**	**>1bn**	**Total**
Competitor activities	40.6	59.4	**100.0**	10.5	10.0	7.8	14.6	57.1	**100.0**
	39.2	*57.3*	***96.5***	*10.1*	*9.7*	*7.5*	*14.1*	*55.1*	***96.5***
Customer or supplier activities	41.4	58.6	**100.0**	9.9	10.8	4.5	19.8	55.0	**100.0**
	20.3	*28.6*	***48.9***	*4.8*	*5.3*	*2.2*	*9.7*	*26.9*	***48.9***
Changing Market or Industry structure	45.0	55.0	**100.00**	9.5	10.1	9.5	14.8	56.2	**100.0**
	33.5	*41.0*	***74.4***	*7.0*	*7.5*	*7.0*	*11.0*	*41.9*	***74.4***
Emerging Technology Initiatives	38.5	61.5	**100.0**	9.6	11.1	7.4	15.6	56.3	**100.0**
	22.9	*36.6*	***59.5***	*5.7*	*6.6*	*4.4*	*9.3*	*33.5*	***59.5***
Global Economic Conditions	41.9	58.1	**100.0**	6.7	11.4	6.7	15.2	60.0	**100.0**
	19.4	*26.9*	**46.3**	*3.1*	*5.3*	*3.1*	*7.0*	*27.8*	***46.3***
Regulatory Climate	42.5	57.5	**100.0**	7.1	12.4	8.8	14.2	57.5	**100.0**
	21.1	*28.6*	***49.8***	*3.5*	*6.2*	*4.4*	*7.0*	*28.6*	***49.8***
Political Climate	40.5	59.5	**100.0**	8.3	13.1	2.4	15.5	60.7	**100.0**
	15.0	*22.0*	***37.0***	*3.1*	*4.8*	*.9*	*5.7*	*22.5*	***37.0***
Other	33.3	66.7	**100.0**	11.1	00.0	00.0	00.0	88.9	**100.0**
	1.3	*2.7*	**4.0**	*.4*	*00.0*	*00.0*	*00.0*	*3.5*	***4.0***

Normal: % Within Variables.
Italic: % of Total.

Using Chi-Square test, the results of the analysis indicate there is no significant form of association at the 5% level.

Examination of the statistical results indicates that the UK CI managers 'Often' (13.2%) to 'Very often' (14.1%) use "Secure intranet" to acquire, access, store and share CI; compared to the Other European CI managers they 'Sometimes' (10.6%) to 'Often' (36.1%) use "Secure intranet" to acquire, access, store and share CI.

The statistical results also indicate that, 35.2% of the total respondents 'Sometimes' use "Presentation Software" and 26.4% of the total respondents 'Often' use "Presentation Software" to acquire, access, store and share CI. From this 35.2% of the total respondents 'Sometimes' use "Presentation Software", 16.3% were from the UK and 18.9% were from Other European countries.

Moreover, from this 26.4% of the total respondents who 'Often' use "Presentation Software", 7.0% were from the UK and 19.4% were from Other European. The results also indicate that there is a significant group of CI managers in UK who 'Never' (7.0%) use "Presentation Software" to acquire, access, store and share CI.

The statistical results also revealed that, the CI managers in the UK and Other European companies 'Rarely' (36.1%) to 'Sometimes' (33.0%) use "Voice mail" to acquire, access, store and share CI. In addition, the CI managers in UK and Other European companies 'Sometimes' (32.6%) to 'Often' (29.5%) use "Fax machines, E-mail services" to acquire, access, store and share CI.

Examination of Table 6.11 also revealed that, there are differences among the respondents, regarding the use of "Group decision support systems" to acquire, access, store and share CI. The statistical results indicates that the UK CI managers 'Never' (15.4%) to ''Rarely' (11.0%) use "Group decision support systems" to acquire, access, store and share CI; compared to the Other European CI managers who 'Rarely' (23.8%) to 'Sometimes' (17.2%) use "Group decision support systems" to acquire, access, store and share CI.

Table 6.11 Cross-tabulation by country regarding the tools/systems used to acquire, access, store and share CI

Q 7	UNITED KINGDOM					OTHER EUROPEAN					TOTAL				
Variable	**Never**	**Rarely**	**Some times**	**Often**	**Very often**	**Never**	**Rarely**	**Some times**	**Often**	**Very often**	**Never**	**Rarely**	**Some times**	**Often**	**Very often**
Databases	80.0	47.4	48.5	36.7	40.0	20.0	52.6	51.5	63.3	60.0	100	100	100	100	100
	1.8	*4.0*	*7.0*	*14.5*	*14.1*	*.4*	*4.4*	*7.5*	*25.1*	*21.1*	*2.2*	*8.4*	*14.5*	*39.6*	*35.2*
Secure intranet* **	100	45.5	42.9	26.8	60.4	00.0	54.5	57.1	73.2	39.6	100	100	100	100	100
	4.0	*2.2*	*7.9*	*13.2*	*14.1*	*0.00*	*2.6*	*10.6*	*36.1*	*9.3*	*4.0*	*4.8*	*18.5*	*49.3*	*23.3*
Presentation software* **	80.0	31.8	46.3	26.7	47.8	20.0	68.2	53.8	73.3	52.2	100	100	100	100	100
	7.0	*6.2*	*16.3*	*7.0*	*4.8*	*1.8*	*13.2*	*18.9*	*19.4*	*5.3*	*8.8*	*19.4*	*35.2*	26.4	*10.1*
Voice mail system**	55.0	40.2	34.7	27.3	87.5	45.0	59.8	65.3	72.7	12.5	100	100	100	100	100
	9.7	*14.5*	*11.5*	*2.6*	*3.1*	*7.9*	*21.6*	*21.6*	*7.0*	*.4*	*17.6*	*36.1*	*33.0*	*9.7*	*3.5*
Fax machines, E-mail services	50.0	27.8	41.9	38.8	55.0	50.0	72.2	58.1	61.2	45.0	100	100	100	100	100
	2.2	*4.4*	*13.7*	*11.5*	*9.7*	*2.2*	*11.5*	*18.9*	*18.1*	*7.9*	*4.4*	*15.9*	*32.6*	*29.5*	*17.6*
Group decision support systems* **	61.4	31.6	35.0	36.0	66.7	38.6	68.4	65.0	64.0	33.3	100	100	100	100	100
	15.4	*11.0*	*9.3*	*4.0*	*1.8*	*9.7*	*23.8*	*17.2*	*7.0*	*.9*	*25.1*	*34.8*	*26.4*	*11.0*	*2.6*
Dedicated CI process system* **	57.7	22.0	24.3	58.1	30.8	42.3	78.0	75.7	41.9	69.2	100	100	100	100	100
	18.1	*4.8*	*4.0*	*11.0*	*3.5*	*13.2*	*17.2*	*12.3*	*7.9*	*7.9*	*31.3*	*22.0*	*16.3*	*18.9*	*11.5*

Normal: % Within Variables.
Italic: % of Total.

** Using Chi-Square test, the results of the analysis indicate there is a statistically significant form of association at the 5% level.

*** Using Chi-Square test, the results of the analysis indicate there is a statistically significant form of association at the 1% level.

Inspection of Table 6.11 also revealed that, there is no clear answer among the respondents, regarding the use of "Dedicated CI process system" to acquire, access, store and share CI. The statistical results indicates that there is mainly two different groups of respondents in the UK; the first group 'Never' (18.1%) use "Dedicated CI process system" to acquire, access, store and share CI, and the second group 'Often' (11.0%) use "Dedicated CI process system" to acquire, access, store and share CI. In the other hand, the Other European managers 'Never' (13.2%) to 'Rarely' (17.2%) use "Dedicated CI process system" to acquire, access, store and share CI.

In order to determine if the company size had an affect on what kind of tools/systems CI managers use to acquire, access, store and share CI, a cross-tabulation by company turnover was carried out, and the results presented in Table 6.12. Inspection of the Table 6.12 revealed that, the larger companies in terms of turnover are more likely ('Often' and 'Very often') to use "Databases" and "Secure intranet" to acquire, access, store and share CI.

This result could be explained by the fact that, larger companies in terms of turnover, more likely to have the financial resources to invest and use databases as well as secure intranet than smaller companies. In addition, Table 6.12 revealed that, the larger companies in terms of turnover are more likely ('Sometimes' and 'Often') to use "Presentation Software" and "Fax machines, E-mail services" to acquire, access, store and share CI.

Moreover, the statistical results show that, the larger companies in terms of turnover are likely ('Rarely' and 'Sometimes') to use "Voice mail" and "Group decision support systems" to acquire, access, store and share CI. However, the statistical results indicate that, there is no clear answer among the respondents, regarding the use of "Dedicated CI process system" to acquire, access, store and share CI.

Table 6.12 Cross-tabulation by company size regarding the tools/systems they use to acquire, access, store and share CI

Q 7		Databases	Secure intranet	Presentation software	Voice mail system	Fax machines, E-mail	Group decision support systems	Dedicated CI process system	Other
< 100 m	Never	00.0 *00.0*	22.2 *.9*	00.0 *00.0*	7.5 *1.3*	00.0 *00.0*	5.3 *1.3*	12.7 *4.0*	00.0 *00.0*
	Rarely	5.3 *.4*	00.0 *00.0*	6.8 *1.3*	8.5 *3.1*	8.3 *1.3*	5.1 *1.8*	12.0 *2.6*	00.0 *00.0*
	Sometimes	18.2 *2.6*	19.0 *3.5*	18.8 *6.6*	10.7 *3.5*	8.1 *2.6*	18.3 *4.8*	8.1 *1.3*	00.0 *00.0*
	Often	12.2 *4.8*	4.5 *2.2*	8.3 *2.2*	18.2 *1.8*	13.4 *4.0*	16.0 *1.8*	4.7 *.9*	00.0 *00.0*
	Very Often	7.5 *2.6*	17.0 *4.0*	4.3 *.4*	25.0 *.9*	15.0 *2.6*	33.3 *.9*	15.4 *1.8*	00.0 *00.0*
101 – 250 m	Never	40.0 *.9*	00.0 *00.0*	10.0 *.9*	17.5 *3.1*	00.0 *00.0*	14.0 *3.5*	11.3 *3.5*	00.0 *00.0*
	Rarely	5.3 *.4*	27.3 *1.3*	15.9 *3.1*	6.1 *2.2*	2.8 *.4*	7.6 *2.6*	6.0 *1.3*	00.0 *00.0*
	Sometimes	3.0 *.4*	14.3 *2.6*	5.0 *1.8*	8.0 *2.6*	8.1 *2.6*	5.0 *1.3*	10.8 *1.8*	00.0 *00.0*
	Often	12.2 *4.8*	10.7 *5.3*	13.3 *3.5*	9.1 *.9*	14.9 *4.4*	16.0 *1.8*	9.3 *1.8*	00.0 *00.0*
	Very Often	8.8 *3.1*	1.9 *.4*	4.3 *.4*	25.0 *.9*	12.5 *2.2*	16.7 *.4*	11.5 *1.3*	00.0 *00.0*
251 – 500 m	Never	20.0 *.4*	00.0 *00.0*	20.0 *1.8*	10.0 *1.8*	00.0 *00.0*	17.5 *4.4*	14.1 *4.4*	00.0 *00.0*
	Rarely	10.5 *.9*	9.1 *.4*	13.6 *2.6*	11.0 *4.0*	13.9 *2.2*	11.4 *4.0*	4.0 *.9*	00.0 *00.0*
	Sometimes	3.0 *.4*	7.1 *1.3*	5.0 *1.8*	8.0 *2.6*	9.5 *3.1*	1.7 *.4*	5.4 *.9*	00.0 *00.0*
	Often	7.8 *3.1*	10.7 *5.3*	8.3 *2.2*	4.5 *.4*	6.0 *1.8*	00.0 *00.0*	9.3 *1.8*	00.0 *00.0*
	Very Often	11.3 *4.0*	7.5 *1.8*	4.3 *.4*	00.0 *00.0*	10.0 *1.8*	00.0 *00.0*	7.7 *.9*	00.0 *00.0*
501 – 1 bn	Never	00.0 *00.0*	22.2 *.9*	10.0 *.9*	20.0 *3.5*	00.0 *00.0*	12.3 *3.1*	16.9 *5.3*	00.0 *00.0*
	Rarely	5.3 *.4*	18.2 *.9*	4.5 *.9*	18.3 *6.6*	11.1 *1.8*	13.9 *4.8*	12.0 *2.6*	00.0 *00.0*

	Sometimes	15.2 *2.2*	9.5 *1.8*	17.5 *6.2*	6.7 *2.2*	13.5 *4.4*	13.3 *3.5*	13.5 *2.2*	00.0 *00.0*
	Often	11.1 *4.4*	15.2 *7.5*	18.3 *4.8*	13.6 *1.3*	14.9 *4.4*	24.0 *2.6*	14.0 *2.6*	00.0 *00.0*
	Very Often	20.0 *7.0*	13.2 *3.1*	13.0 *1.3*	12.5 *.4*	20.0 *3.5*	00.0 *00.0*	11.5 *1.3*	00.0 *00.0*
< 1 bn	**Never**	40.0 *.9*	55.6 *2.2*	60.0 *5.3*	45.0 *7.9*	100.0 *4.4*	50.9 *12.8*	45.1 *14.1*	00.0 *00.0*
	Rarely	73.7 *6.2*	45.5 *2.2*	59.1 *11.5*	56.1 *20.3*	63.9 *10.1*	62.0 *21.6*	66.0 *14.5*	00.0 *00.0*
	Sometimes	60.0 *8.8*	50.0 *9.3*	53.8 *18.9*	66.7 *22.0*	60.8 *19.8*	61.7 *16.3*	62.2 *10.1*	00.0 *00.0*
	Often	56.7 *22.5*	58.9 *29.1*	51.7 *13.7*	54.5 *5.3*	50.7 *15.0*	44.0 *4.8*	62.8 *11.9*	00.0 *00.0*
	Very Often	52.5 *18.5*	60.4 *14.1*	73.9 *7.5*	37.5 *1.3*	42.5 *7.5*	50.0 *1.3*	53.8 *6.2*	00.0 *00.0*
TOTAL	**Never**	100.0 *2.2*	100.0 *4.0*	100.0 *8.8*	100.0 *17.6*	100.0 *4.4*	100.0 *25.1*	100.0 *31.3*	00.0 *00.0*
	Rarely	100.0 *8.4*	100.0 *4.8*	100.0 *19.4*	100.0 *36.1*	100.0 *15.9*	100.0 *34.8*	100.0 *22.0*	00.0 *00.0*
	Sometimes	100.0 *14.5*	100.0 *18.5*	100.0 *35.2*	100.0 *33.0*	100.0 *32.6*	100.0 *26.4*	100.0 *16.3*	00.0 *00.0*
	Often	100.0 *39.6*	100.0 *49.3*	100.0 *26.4*	100.0 *9.7*	100.0 *29.5*	100.0 *11.0*	100.0 *18.9*	00.0 *00.0*
	Very Often	100.0 *35.2*	100.0 *23.3*	100.0 *10.1*	100.0 *3.5*	100.0 *17.6*	100.0 *2.6*	100.0 *11.5*	00.0 *00.0*

Regarding to what kind of techniques do CI managers use to analyse CI? The results from respondents regarding this question were cross-tabulated by country and displayed in Table 6.13. The statistical results indicate that, 49.3% of the total respondents 'Often' use "SWOT analysis" and 26.9% of the total respondents 'Very often' use "SWOT analysis" to analyse CI. From this 49.3%, 15.0% were from the UK and 34.4% were from Other European. This result also indicates that the CI managers in the UK and Other European companies 'Often' to 'Very Often' use "SWOT analysis" to analyse CI.

Examination of the statistical results indicates that the UK CI managers 'Often' (18.1%) to 'Very often' (11.0%) use "Key success factors" to analyse CI; compared to the Other European CI managers who 'Sometimes' (19.4%) to 'Often' (22.9%) use "Key success factors" to analyse CI. With regard to "Competitor profiling", 45.4% of the total respondents 'Often' use it and 37.0% of the total respondents 'Very often' use "Competitor profiling" to analyse CI. The statistical results also indicate that, 33.5% of the total respondents 'Sometimes' use "Financial analysis" and 38.8% of the total respondents 'Often' use "Financial analysis" to analyse CI.

The statistical results also revealed that, the CI managers in the UK and Other European companies 'Rarely' (29.5%) to 'Sometimes' (38.3%) use "Win/loss analysis" to analyse CI. In addition, the CI managers in the Other European companies 'Rarely' (19.4%) to 'Sometimes' (16.7%) use "STEP analysis" to analyse CI, compared to the CI managers in the UK companies which, 'Never' (9.7%) to 'Sometimes' (12.3%) use "STEP analysis" to analyse CI. Moreover, the statistical results also revealed that, the CI managers in the UK and Other European companies 'Never' (39.2%) to 'Rarely' (28.6%) use "War gaming / role playing" to analyse CI.

Table 6.13 Cross-tabulation by country regarding the techniques used to analyse CI

Q8	UNITED KINGDOM					OTHER EUROPEAN					TOTAL				
Variable	**Never**	**Rarely**	**Some times**	**Often**	**Very often**	**Never**	**Rarely**	**Some times**	**Often**	**Very often**	**Never**	**Rarely**	**Some times**	**Often**	**Very often**
SWOT analysis* **	100.0 *1.8*	20.0 *.4*	44.4 *8.8*	30.4 *15.0*	57.4 *15.4*	00.0 *0.00*	80.0 *1.8*	55.6 *11.0*	69.6 *34.4*	42.6 *11.5*	100 *1.8*	100 *2.2*	100 *19.8*	100 *49.3*	100 *26.9*
Key Success Factors	66.7 *2.6*	41.7 *2.2*	27.9 *7.5*	44.1 *18.1*	48.1 *11.0*	33.3 *1.3*	58.3 *3.1*	72.1 *19.4*	55.9 *22.9*	51.9 *11.9*	100 *4.0*	100 *5.3*	100 *26.9*	100 *41.0*	100 *22.9*
Competitor profiling	00.0 *00.0*	44.4 *1.8*	48.4 *6.6*	35.9 *16.3*	45.2 *16.7*	00.0 *00.0*	55.6 *2.2*	51.6 *7.0*	64.1 *29.1*	54.8 *20.3*	00.0 *00.0*	100 *4.0*	100 *13.7*	100 *45.4*	100 *37.0*
Financial analysis* **	00.0 *00.0*	20.0 *1.3*	55.3 *18.5*	30.7 *11.9*	45.8 *9.7*	00.0 *00.0*	80.0 *5.3*	44.7 *15.0*	69.3 *26.9*	54.2 *11.5*	00.0 *00.0*	100 *6.6*	100 *33.5*	100 *38.8*	100 *21.1*
Win/lose analysis* **	86.4 *8.4*	52.2 *15.4*	23.0 *8.8*	28.6 *4.4*	62.5 *4.4*	13.6 *1.3*	47.8 *14.1*	77.0 *29.5*	71.4 *11.0*	37.5 *2.6*	100 *9.7*	100 *29.5*	100 *38.3*	100 *15.4*	100 *7.0*
STEP analysis **	55.0 *9.7*	29.0 *7.9*	42.4 *12.3*	35.7 *6.6*	64.7 *4.8*	45.0 *7.9*	71.0 *19.4*	57.6 *16.7*	64.3 *11.9*	35.3 *2.6*	100 *17.6*	100 *27.3*	100 *29.1*	100 *18.5*	100 *7.5*
War gaming / role playing	40.4 *15.9*	35.4 *10.1*	60.0 *9.3*	28.0 *3.1*	53.8 *3.1*	59.6 *23.3*	64.6 *18.5*	40.0 *6.2*	72.0 *7.9*	46.2 *2.6*	100 *39.2*	100 *28.6*	100 *15.4*	100 *11.0*	100 *5.7*

Normal: % Within Variables.
Italic: % of Total.

** Using Chi-Square test, the results of the analysis indicate there is a statistically significant form of association at the 5% level.

*** Using Chi-Square test, the results of the analysis indicate there is a statistically significant form of association at the 1% level.

In order to determine if the company size had an affect on what kind of techniques they use to analyse CI, a cross-tabulation by company turnover was carried out, and the results presented in Table 6.14. Inspection of the Table 6.14 revealed that, the larger companies in terms of turnover are more likely ('Often' and 'Very often') to use "SWOT analysis", "Key success factors" and "Competitor profiling" to analyse CI. In addition, Table 6.14 revealed that, the larger companies in terms of turnover are more likely ('Sometimes' and 'Often') to use "Financial analysis" to analyse CI. Moreover, the statistical results show that, the larger companies in terms of turnover are likely ('Rarely' and 'Sometimes') to use "Win/loss analysis" and "STEP analysis" to analyse CI. Finally, the statistical results indicate that, the larger companies in terms of turnover are less likely ('Rarely' and 'Sometimes') to use "War gaming / role playing" to analyse CI. However, we cannot make any conclusion from these results, as the answer to this question can differ from one CI manager to another depending on their knowledge of each technique.

Regarding to measure the effectiveness of your company's CI activities, what would CI managers use as performance measures? The results for cross-tabulation by country, regarding what CI managers would use as performance measures to measure the effectiveness of their CI activities, are presented in Table 6.15. Examination of the Table 6.15 revealed that the top three performance measures, which CI managers use to measure the effectiveness of their CI activities are, 83.7% "Actions taken", 52.9% "Market share improvements", and 30.4% "Financial goals met".

From the 83.7% of the total respondents who use "Actions taken" as performance measures to measure the effectiveness of their CI activities, 33.9% were from the UK and 49.8% were from Other European countries. In addition, from the 52.9 % of the total respondents who use "Market share improvements" as performance measures to measure the effectiveness of their CI activities, 18.9% were from UK and 33.9% were from Other European countries.

Table 6.14 Cross-tabulation by company size regarding the techniques used to analyse CI

Q 8		SWOT analysis	Key Success Factors	Competitor profiling	Financial analysis	Win/lose analysis	STEP analysis	War gaming / role playing	Other
< 100 m	Never	50.0 *.9*	33.3 *1.3*	00.0 *00.0*	00.0 *00.0*	13.6 *1.3*	15.0 *2.6*	11.2 *4.4*	00.0 *00.0*
	Rarely	00.0 *00.0*	00.0 *00.0*	33.3 *1.3*	20.0 *1.3*	10.4 *3.1*	6.5 *1.8*	4.6 *1.3*	00.0 *00.0*
	Sometimes	11.1 *2.2*	13.1 *3.5*	9.7 *1.3*	10.5 *3.5*	10.3 *4.0*	12.1 *3.5*	14.3 *2.2*	00.0 *00.0*
	Often	5.4 *2.6*	6.5 *2.6*	6.8 *3.1*	5.7 *2.2*	2.9 *.4*	7.1 *1.3*	12.0 *1.3*	00.0 *00.0*
	Very Often	18.0 *4.8*	13.5 *3.1*	13.1 *4.8*	16.7 *3.5*	25.0 *1.8*	17.6 *1.3*	23.1 *1.3*	00.0 *00.0*
101 – 250 m	Never	00.0 *00.0*	11.1 *.4*	00.0 *00.0*	00.0 *00.0*	18.2 *1.8*	7.5 *1.3*	12.4 *4.8*	00.0 *00.0*
	Rarely	00.0 *00.0*	00.0 *00.0*	11.1 *.4*	33.3 *2.2*	6.0 *1.8*	9.7 *2.6*	4.6 *1.3*	00.0 *00.0*
	Sometimes	8.9 *1.8*	13.1 *3.5*	16.1 *2.2*	6.6 *2.2*	11.5 *4.4*	4.5 *1.3*	8.6 *1.3*	00.0 *00.0*
	Often	11.6 *5.7*	11.8 *4.8*	3.9 *1.8*	6.8 *2.6*	8.6 *1.3*	19.0 *3.5*	8.0 *.9*	00.0 *00.0*
	Very Often	8.2 *2.2*	3.8 *.9*	14.3 *5.3*	12.5 *2.6*	6.3 *.4*	11.8 *.9*	23.1 *1.3*	00.0 *00.0*
251 – 500 m	Never	50.0 *.9*	22.2 *.9*	00.0 *00.0*	00.0 *00.0*	18.2 *1.8*	12.5 *2.2*	10.1 *4.0*	00.0 *00.0*
	Rarely	20.0 *.4*	16.7 *.9*	00.0 *00.0*	6.7 *.4*	9.0 *2.6*	1.6 *.4*	9.2 *2.6*	00.0 *00.0*
	Sometimes	8.9 *1.8*	8.2 *2.2*	12.9 *1.8*	14.5 *4.8*	9.2 *3.5*	15.2 *4.4*	8.6 *1.3*	00.0 *00.0*
	Often	9.8 *4.8*	9.7 *4.0*	12.6 *5.7*	8.0 *3.1*	5.7 *.9*	2.4 *.4*	8.0 *.9*	00.0 *00.0*

	Very Often	3.3 *.9*	3.8 *.9*	3.6 *1.3*	2.1 *.4*	00.0 *00.0*	17.6 *1.3*	00.0 *00.0*	00.0 *00.0*
501 – 1 bn	**Never**	00.0 *00.0*	00.0 *00.0*	00.0 *00.0*	00.0 *00.0*	4.5 *.4*	27.5 *4.8*	22.5 *8.8*	00.0 *00.0*
	Rarely	60.0 *1.3*	33.3 *1.8*	11.1 *.4*	6.7 *.4*	14.9 *4.4*	12.9 *3.5*	9.2 *2.6*	00.0 *00.0*
	Sometimes	24.4 *4.8*	14.8 *4.0*	19.4 *2.6*	21.1 *7.0*	14.9 *5.7*	10.6 *3.1*	8.6 *1.3*	00.0 *00.0*
	Often	9.8 *4.8*	9.7 *4.0*	10.7 *4.8*	13.6 *5.3*	14.3 *2.2*	7.1 *1.3*	4.0 *.4*	00.0 *00.0*
	Very Often	11.5 *3.1*	19.2 *4.4*	16.7 *6.2*	6.3 *1.3*	18.8 *1.3*	17.6 *1.3*	15.4 *.9*	00.0 *00.0*
< 1 bn	**Never**	00.0 *00.0*	33.3 *1.3*	00.0 *00.0*	00.0 *00.0*	45.5 *4.4*	37.5 *6.6*	43.8 *17.2*	00.0 *00.0*
	Rarely	20.0 *.4*	50.0 *2.6*	44.4 *1.8*	33.3 *2.2*	59.7 *17.6*	69.4 *18.9*	72.3 *20.7*	00.0 *00.0*
	Sometimes	46.7 *9.3*	50.8 *13.7*	41.9 *5.7*	47.4 *15.9*	54.0 *20.7*	57.6 *16.7*	60.0 *9.3*	00.0 *00.0*
	Often	63.4 *31.3*	62.4 *25.6*	66.0 *30.0*	65.9 *25.6*	68.6 *10.6*	64.3 *11.9*	68.0 *7.5*	00.0 *00.0*
	Very Often	59.0 *15.9*	59.6 *13.7*	52.4 *19.4*	62.5 *13.2*	50.0 *3.5*	35.3 *2.6*	38.5 *2.2*	00.0 *00.0*

Moreover, from the 30.4% of the total respondents who use "Financial goals met" as performance measures to measure the effectiveness of their CI activities, 13.7% were from the UK and 33.9% were from Other European countries. This result indicates that CI managers in the UK and Other European are more likely to use, "Actions taken", "Market share improvements", Financial goals met", followed by "Leads generated" and "New products developed" as performance measures to measure the effectiveness of their CI activities their CI activities.

In order to determine if the company size had an affect on what CI managers would use as performance measures to measure the effectiveness of their CI activities, a cross-tabulation by company turnover was carried out, and the results also presented in Table 6.15. The results of Table 6.15 revealed that, from the 83.7% of the total respondents who use "Actions taken" as performance measures to measure the effectiveness of their CI activities, 48.5% were companies with turnover of "Over 1bn"; 11.0% were companies with turnover of "501m – 1bn"; 7.5% were companies with turnover of "251m – 500m"; 9.3% were companies with turnover of "101m – 250m"; and 7.5% were companies with turnover of "Less than 100m". This result indicates that the companies with turnover of "Over 1bn" and"501m – 1bn", are more likely to use "Actions taken" as performance measures to measure the effectiveness of their CI activities, than companies with turnover of "251m – 500m" and "Less than 100m".

Regarding to what extent does CI contribute to marketing strategy formulation process? The results from respondents regarding this question were cross-tabulated by country and displayed in Table 6.16.The statistical results indicate that, 46.7% of the total respondents believe that 'Often' CI contributes to "Setting marketing objectives" and 30.0% of the total respondents believe that 'Very often' CI contributes to "Setting marketing objectives". From this 46.7%, 17.2% were from the UK and 29.5% were from Other European. From this 30.0%, 14.1% were from the UK and 15.9% were from Other European.

Table 6.15 Cross-tabulation by country and company size regarding what CI managers would use as performance measures to measure the effectiveness of their CI activities

Q9 in Percentage	COUNTRIES			TURNOVER					
Variable	**UK**	**European**	**Total**	**<100m**	**101-250**	**251-500**	**501-1bn**	**>1bn**	**Total**
Actions taken	40.5	59.5	**100**	8.9	11.1	8.9	13.2	57.9	**100**
	33.9	*49.8*	***83.7***	*7.5*	*9.3*	*7.5*	*11.0*	*48.5*	***83.7***
Financial goals met	44.9	55.1	**100**	10.1	13.0	5.8	11.6	59.4	**100**
	13.7	*16.7*	***30.4***	*3.1*	*4.0*	*1.8*	*3.5*	*18.1*	***30.4***
Market share improvements	35.8	64.2	**100**	12.5	9.2	8.3	14.2	55.8	**100**
	18.9	33.9	***52.9***	*6.6*	*4.8*	*4.4*	*7.5*	*29.5*	***52.9***
Leads generated	50.8	49.2	**100**	16.4	14.8	3.3	16.4	49.2	**100**
	13.7	*13.2*	***26.9***	*4.4*	*4.0*	*.9*	*4.4*	*13.2*	***26.9***
New products developed	50.0	50.0	**100**	14.3	8.9	3.6	19.6	53.6	**100**
	12.3	*12.3*	***24.7***	*3.5*	*2.2*	*.9*	*4.8*	*13.2*	***24.7***
Other**	100	00	**100**	00.0	00.0	25.0	00.0	75.0	**100**
	1.8	*00*	***1.8***	*00.0*	*00.0*	*.4*	*00.0*	*1.3*	***1.8***

Normal: % Within Variables.
Italic: % of Total.

** Using Chi-Square test, the results of the analysis indicate there is a statistically significant form of association at the 5% level.

With regard to "Strategic marketing analysis", 56.8% of the total respondents believe it's 'Often' and 24.7% of the total respondents believe its 'Very often' that CI contributes to "Strategic marketing analysis". Examination of the statistical results indicates that the UK CI managers believe its 'Often' (15.4%) to 'Very often' (11.9%) CI contributes to "Strategic decision making"; compared to the Other European CI managers who believe its 'Sometimes' (13.2%) to 'Often' (37.0%) that CI contributes to "Strategic decision making". This result shows that the UK CI managers are more likely to use their CI activities in "Strategic decision making", compared to the Other European CI managers. The statistical results also indicate that, 39.2% of the total respondents believe that 'Sometimes' CI contribute to "Implementation & control".

In order to determine if the company size had an affect on to the extent CI contributes to the marketing strategy formulation process, a cross-tabulation by company turnover was carried out, and the results are presented in Table 6.17. Inspection of the Table 6.17 revealed that, the larger companies in terms of turnover are more likely ('Sometimes' to 'Often') to use CI in "Setting marketing objectives". In addition, Table 6.17 revealed that, the larger companies in terms of turnover are more likely ('Often' and 'Very often') to use CI in the "Strategic marketing analysis"; and finally, the larger companies in terms of turnover are more likely to use CI ('Sometimes' to 'Often') in the "Strategic decision making" and "Implementation & control".

Regarding how does CI Contribute to setting marketing objectives? The results from respondents, regarding this question were cross-tabulated by country and displayed in Table 6.18. The statistical analysis revealed that the top three ways that CI contributes to setting marketing objectives were, 77.5% "Understanding competitors strategy and objectives", 77.0% "CI helps to achieve better understanding of the business environment", and 59.0% "Providing useful intelligence, which helps to set achievable, marketing objectives". From the 77.5% of the total respondents who believe CI contributes to setting marketing objectives by "Understanding competitors strategy and objectives", 36.6% were from the UK and 41.0% were from Other European countries.

Table 6.16 Cross-tabulation by country regarding the extent CI contributes to the marketing strategy formulation process

Q10	UNITED KINGDOM					OTHER EUROPEAN					TOTAL				
Variable	**Never**	**Rarely**	**Some times**	**Often**	**Very often**	**Never**	**Rarely**	**Some times**	**Often**	**Very often**	**Never**	**Rarely**	**Some times**	**Often**	**Very often**
Setting Marketing Objectives**	50.0 *.9*	30.6 *4.8*	36.8 *17.2*	47.1 *14.1*	76.9 *4.4*	50.0 *.9*	69.4 *11.0*	63.2 *29.5*	52.9 *15.9*	23.1 *1.3*	100 *1.8*	100 *15.9*	100 *46.7*	100 *30.0*	100 *5.7*
Strategic Analysis***	00.0 *00.0*	71.4 *2.2*	57.1 *8.8*	30.2 *17.2*	53.6 *13.2*	00.0 *00.0*	28.6 *.9*	42.9 *6.6*	69.8 *39.6*	46.4 *11.5*	00.0 *00.0*	100 *3.1*	100 *15.4*	100 *56.8*	100 *24.7*
Strategic Decision Making***	00.0 *00.0*	87.5 *3.1*	45.5 *11.0*	29.4 *15.4*	60.0 *11.9*	00.0 *00.0*	12.5 *.4*	54.5 *13.2*	70.6 *37.0*	40.0 *7.9*	00.0 *00.0*	100 *3.5*	100 *24.2*	100 *52.4*	100 *19.8*
Implementation and Control***	69.2 *4.0*	36.2 *7.5*	44.9 *17.6*	29.4 *8.8*	80.0 *3.5*	30.8 *1.8*	63.8 13.2	55.1 *21.6*	70.6 *21.1*	20.0 *.9*	100 *5.7*	100 *20.7*	100 *39.2*	100 *30.0*	100 *4.4*

Normal: % Within Variables.
Italic: % of Total.

** Using Chi-Square test, the results of the analysis indicate there is a statistically significant form of association at the 5% level.
*** Using Chi-Square test, the results of the analysis indicate there is a statistically significant form of association at the 1% level.

Table 6.17 Cross-tabulation by company size regarding the extent CI contributes to the marketing strategy formulation process

Q 10		Setting Marketing Objectives	Strategic Analysis	Strategic Analysis	Implementation and Control
< 100 m	Never	25.0 *.4*	00.0 *00.0*	00.0 *00.0*	30.8 *1.8*
	Rarely	11.1 *1.8*	28.6 *.9*	25.0 *.9*	4.3 *.9*
	Sometimes	6.6 *3.1*	5.7 *.9*	5.5 *1.3*	7.9 *3.1*
	Often	13.2 *4.0*	10.1 *5.7*	8.4 *4.4*	13.2 *4.0*
	Very Often	23.1 *1.3*	12.5 *3.1*	20.0 *4.0*	20.0 *.9*
101 – 250 m	Never	00.0 *00.0*	00.0 *00.0*	00.0 *00.0*	7.7 *.4*
	Rarely	8.3 *1.3*	00.0 *00.0*	00.0 *00.0*	14.9 *3.1*
	Sometimes	13.2 *6.2*	14.3 *2.2*	9.1 *2.2*	7.9 *3.1*
	Often	7.4 *2.2*	11.6 *6.6*	12.6 *6.6*	7.4 *2.2*
	Very Often	00.0 *00.0*	3.6 *.9*	4.4 *.9*	20.0 *.9*
251 – 500 m	Never	00.0 *00.0*	00.0 *00.0*	00.0 *00.0*	7.7 *.4*
	Rarely	2.8 *.4*	00.0 *00.0*	12.5 *.4*	8.5 *1.8*
	Sometimes	7.5 *3.5*	17.1 *2.6*	12.7 *3.1*	9.0 *3.5*
	Often	13.2 *4.0*	10.9 *6.2*	10.1 *5.3*	10.3 *3.1*
	Very Often	15.4 *.9*	00.0 *00.0*	00.0 *00.0*	00.0 *00.0*
501 – 1 bn	Never	00.0 *00.0*	00.0 *00.0*	00.0 *00.0*	15.4 *.9*
	Rarely	19.4 *3.1*	14.3 *.4*	37.5 *1.3*	19.1 *4.0*

	Sometimes	12.3 *5.7*	22.9 *3.5*	18.2 *4.4*	9.0 *3.5*
	Often	14.7 *4.4*	7.0 *4.0*	9.2 *4.8*	14.7 *4.4*
	Very Often	15.4 *.9*	25.0 *6.2*	17.8 *3.5*	30.0 *1.3*
< 1 bn	**Never**	75.0 *1.3*	00.0 *00.0*	00.0 *00.0*	38.5 *2.2*
	Rarely	58.3 *9.3*	57.1 *1.8*	25.0 *.9*	53.2 *11.0*
	Sometimes	60.4 *28.2*	40.0 *6.2*	54.5 *13.2*	66.3 *26.0*
	Often	51.5 *15.4*	60.5 *34.4*	59.7 *31.3*	54.4 *16.3*
	Very Often	46.2 *2.6*	58.9 *14.5*	57.8 *11.5*	30.0 *1.3*

Normal: % Within Variables.
Italic: % of Total.

Table 6.18 Cross-tabulation by country and company size regarding how CI contributes to setting marketing objectives

Q11 in Percentage	COUNTRIES			TURNOVER					
Variable	**UK**	**European**	**Total**	**<100m**	**101-250**	**251-500**	**501-1bn**	**>1bn**	**Total**
Providing useful intelligence, which helps to set achievable, marketing objectives.	43.3 *25.6*	56.7 *33.5*	**100** ***59.0***	11.9 *7.0*	10.4 *6.2*	6.7 *4.0*	14.9 *8.8*	56.0 *33.0*	**100** ***59.0***
CI helps to achieve better understanding of the business environment.	43.7 *33.6*	56.3 *43.4*	**100** ***77.0***	9.8 *7.5*	10.3 *8.0*	9.8 *7.5*	12.1 *9.3*	58.0 *44.7*	**100** ***77.0***
Providing information that can be a platform to develop marketing objectives.	44.4 *17.6*	55.6 *22.0*	**100** ***39.6***	15.6 *6.2*	12.2 *4.8*	6.7 *2.6*	6.7 *2.6*	58.9 *23.3*	**100** ***39.6***
Ensuring that marketing objectives are developed within a reality perspective.	48.8 *18.5*	51.2 *19.4*	**100** ***37.9***	11.6 *4.4*	11.6 *4.4*	7.0 *2.6*	16.3 *6.2*	53.5 *20.3*	**100** ***37.9***
Understanding competitors strategy and objectives.***	47.2 *36.6*	52.8 *41.0*	**100** ***77.5***	10.2 *7.9*	9.7 *7.5*	6.3 *4.8*	15.9 *12.3*	58.0 *44.9*	**100** ***77.5***
Help managers to develop sensible and achievable marketing objectives.**	53.0 *15.4*	47.0 *13.7*	**100** ***29.1***	10.6 *3.1*	16.7 *4.8*	7.6 *2.2*	7.6 *2.2*	57.6 *16.7*	**100** ***29.1***
Do not know.	71.4 *2.2*	28.6 *.9*	**100** ***3.1***	28.6 *.9*	42.9 *1.3*	14.3 *.4*	00.0 *00.0*	14.3 *.4*	**100** ***3.1***

Normal: % Within Variables.
Italic: % of Total.

** Using Chi-Square test, the results of the analysis indicate there is a statistically significant form of association at the 5% level.

*** Using Chi-Square test, the results of the analysis indicate there is a statistically significant form of association at the 1% level.

In addition, from the 77.0% of the total respondents who believe CI contributes to setting marketing objective by "CI helps to achieve better understanding of the business environment", 33.6% were from the UK and 43.4% were from Other European countries. Moreover, from the 59.0% of the total respondents who believe CI contributes to setting marketing objectives by "Providing useful intelligence, which helps to set achievable, marketing objectives", 25.6% were from the UK and 33.5% were from Other European countries.

However, the statistical analysis also revealed that 3.1% of the total respondents "Do not know" how CI contributes to setting marketing objective. Therefore, the results indicate that the CI managers in the UK and Other European countries believe CI contributes to setting marketing objectives by, "Understanding competitors strategy and objectives", "CI helps to achieve better understanding of the business environment", "Providing useful intelligence, which helps to set achievable, marketing objectives", "Providing information that can be a platform to develop marketing objectives", followed by "Ensuring that marketing objectives are developed within a reality perspective" and "Help managers to develop sensible and achievable marketing objectives".

In order to determine if the company size had an affect on how CI contributes to setting marketing objectives, a cross-tabulation by company turnover was carried out, and the results presented in Table 6.18. Inspection of the Table 6.18 revealed that, from the 77.5% of the total respondents who believe CI contributes to setting marketing objectives by "Understanding competitors strategy and objectives", 44.9% were companies with turnover of "Over 1bn"; 12.3% were companies with turnover of "501m – 1bn"; 4.8% were companies with turnover of "251m – 500m"; 7.5% were companies with turnover of "101m – 250m"; and 7.9% were companies with turnover of "Less than 100m". These results indicate that the companies with turnover of "Over 1bn" and"501m – 1bn", are more likely to use CI to contribute to setting marketing objectives by "Understanding competitors strategy and objectives", than companies with turnover of "251m – 500m" and "101m – 250m". Moreover, 3.1% of the total respondents who "Do not know" how CI contributes to setting marketing objectives were, 0.4% in companies with turnover of "Over 1bn"; 0.0% were companies with turnover of

"501m – 1bn"; 0.4% were companies with turnover of "251m – 500m"; 1.3% were companies with turnover of "101m – 250m"; and 0.9% were companies with turnover of "Less than 100m". This result indicates that the smaller companies in terms of turnover are more likely to "Do not know" how CI contributes to setting marketing objective.

Regarding how does CI Contribute to marketing strategy analysis, Table 6.19 presents a cross-tabulation by country of how CI contributes to marketing strategy analysis. The result shows that the top three ways that CI contributes to marketing strategy analysis were, 70.0% "CI analysis helps in a better understanding of the business environment", 65.2% "Providing intelligence on aspects of the competitive environment", and 61.2% "CI techniques help to look at the big picture regarding business environment". From the 70.0% of the total respondents who believe CI contributes to marketing strategy analysis by "CI analysis helps in a better understanding of the business environment", 30.0% were from the UK and 40.1% were from Other European countries. In addition, from the 65.2% of the total respondents who believe CI contributes to marketing strategy analysis by "Providing intelligence on aspects of the competitive environment", 29.5% were from the UK and 35.7% were from Other European countries. Moreover, from the 61.2% of the total respondents who believe that CI contributes to marketing strategy analysis by "CI techniques help to look at the big picture regarding business environment", 26.9% were from UK and 34.4% were from Other European countries. However, the statistical analysis also revealed that 2.2% of the total respondents "Do not know" how CI contributes to marketing strategy analysis.

Therefore, the results suggest that the CI managers in the UK and Other European countries believe that CI contributes to marketing strategy analysis by, "CI analysis helps in a better understanding of the business environment", "Providing intelligence on aspects of the competitive environment", "CI techniques help to look at the big picture regarding business environment", "Using CI techniques can inform and support marketing analysis", followed by "CI can provide clear understanding of the market and add value to the analysis" and "Helps managers to identify opportunities in the market and anticipate competitors' moves".

Table 6.19 Cross-tabulation by country and company size regarding how CI contributes to marketing strategy analysis

Q12 in Percentage	COUNTRIES			TURNOVER					
Variable	**UK**	**European**	**Total**	**<100m**	**101-250**	**251-500**	**501-1bn**	**>1bn**	**Total**
CI techniques help to look at the big picture regarding business environment.	43.9 *26.9*	56.1 *34.4*	**100** ***61.2***	9.4 *5.7*	10.8 *6.6*	7.9 *4.8*	14.4 *8.8*	57.6 *35.2*	**100** ***61.2***
CI analysis helps in a better understanding of the business environment.	42.8 *30.0*	57.2 *40.1*	**100** ***70.0***	9.4 *6.6*	12.6 *8.8*	9.4 *6.6*	15.1 *10.6*	53.5 *37.4*	**100** ***70.0***
Using CI techniques can inform and support marketing analysis.	45.7 *23.3*	54.3 *27.8*	**100** ***51.1***	12.9 *6.6*	13.8 *7.0*	6.0 *3.1*	11.2 *5.7*	56.0 *28.6*	**100** ***51.1***
CI can provide clear understanding of the market and add value to the analysis.**	50.0 *22.0*	50.0 *22.0*	**100** ***44.1***	13.0 *5.7*	7.0 *3.1*	10.0 *4.4*	12.0 *5.3*	58.0 *25.6*	**100** ***44.1***
Providing intelligence on aspects of the competitive environment.	45.3 *29.5*	54.7 *35.7*	**100** ***65.2***	8.8 *5.7*	9.5 *6.2*	6.8 *4.4*	16.9 *11.0*	58.1 *37.9*	**100** ***65.2***
Helps managers to identify opportunities in the market and anticipate competitors' moves.***	56.1 *32.6*	43.9 25.6	**100** ***58.1***	6.8 *4.0*	11.4 *6.6*	9.8 *5.7*	15.2 *8.8*	56.8 *33.0*	**100** ***58.1***
Do not know.***	100.0 *2.2*	00.0 *00.0*	**100** ***2.2***	20.0 *.4*	20.0 *.4*	00.0 *00.0*	00.0 *00.0*	60.0 *1.3*	**100** ***2.2***

Normal: % Within Variables.
Italic: % of Total.

** Using Chi-Square test, the results of the analysis indicate there is a statistically significant form of association at the 5% level.

*** Using Chi-Square test, the results of the analysis indicate there is a statistically significant form of association at the 1% level.

In order to determine if the company size had an affect on how CI contributes to marketing strategy analysis, a cross-tabulation by company turnover was carried out, and the results presented in Table 6.19. Inspection of Table 6.19 revealed that, from the 70.0% of the total respondents who believe CI contributes to marketing strategy analysis by "CI analysis helps in a better understanding of the business environment", 37.4% were companies with "Over 1b" turnover; 10.6% were companies with turnover of "501m – 1bn"; 6.6% were companies with turnover of "251m – 500m"; 8.8% were companies with turnover of "101m – 250m"; and 6.6% were companies with turnover of "Less than 100m".

These results indicate that the companies with turnover of "Over 1bn" and"501m – 1bn", are more likely to use CI to contribute to marketing strategy analysis "CI analysis helps in a better understanding of the business environment", than companies with turnover of "251m – 500m" and "101m – 250m". Moreover, of the 2.2% of total respondents who "Do not know" how CI contributes to marketing strategy analysis, 1.3% were companies with turnover of "Over 1bn"; 0.4% were companies with turnover of "101m – 250m"; and 0.4% were companies with turnover of "Less than 100m".

Regarding how does CI Contribute to strategic decision-making? The results from respondents, regarding this question were cross-tabulated by country and displayed in Table 6.20. The statistical analysis revealed that the top three ways that CI contributes to strategic decision-making were, 80.6% "Up to date intelligence regarding business environment helps managers to make their decisions", 65.5% "Assesses and evaluates likely competitors reaction", and 61.7% "Provides intelligence and suggestion to the senior managers". From the 80.6% of the total respondents who believe CI contributes to strategic decision-making by "Up to date intelligence regarding business environment helps managers to make their decisions", 33.5% were from the UK and 47.1% were from Other European countries.

Table 6.20 Cross-tabulation by country and company size regarding how CI contributes to strategic decision-making

Q13 in Percentage	COUNTRIES			TURNOVER					
Variable	**UK**	**European**	**Total**	**<100m**	**101-250**	**251-500**	**501-1bn**	**>1bn**	**Total**
Up to date intelligence regarding business environment helps managers to make their decisions.	41.5 *33.5*	58.5 *47.1*	**100** ***80.6***	10.4 *8.4*	10.4 *8.4*	7.1 *5.7*	15.3 *12.3*	56.8 *45.8*	**100** ***80.6***
Focuses on what to achieve in the market and how to go about it.	34.6 *15.9*	65.4 *30.0*	**100** ***45.8***	9.6 *4.4*	6.7 *3.1*	6.7 *3.1*	15.4 *7.0*	61.5 *28.2*	**100** ***45.8***
Assesses and evaluates likely competitors reaction.	45.3 *29.6*	54.7 *35.8*	**100** ***65.5***	10.8 *7.1*	12.2 *8.0*	8.8 *5.8*	9.5 *6.2*	58.8 *38.5*	**100** ***65.5***
Provides intelligence and suggestion to the senior managers.***	51.4 *31.7*	48.6 *30.0*	**100** ***61.7***	11.4 *7.0*	10.0 *6.2*	9.3 *5.7*	14.3 *8.8*	55.0 *33.9*	**100** ***61.7***
Predicts the future position of products and markets.	46.9 *26.4*	53.1 30.0	**100** ***56.4***	12.5 *7.0*	8.6 *4.8*	7.0 *4.0*	14.8 *8.4*	57.0 *32.2*	**100** ***56.4***
Do not know.	100.0 .9	00.0 *00.0*	**100** ***.9***	00.0 *00.0*	50.0 *.4*	50.0 *.4*	00.0 *00.0*	00.0 *00.0*	**100** ***.9***
Other	00.0 *00.0*	100.0 .4	**100** ***.4***	00.0 *00.0*	00.0 *00.0*	00.0 *00.0*	00.0 *00.0*	100.0 *.4*	**100** ***.4***

Normal: % Within Variables.
Italic: % of Total.

*** Using Chi-Square test, the results of the analysis indicate there is a statistically significant form of association at the 1% level.

In addition, from the 65.5% of the total respondents who believe CI contributes to strategic decision-making by "Assesses and evaluates likely competitors reaction", 29.6% were from the UK and 35.8% were from Other European countries. Moreover, from the 61.7% of the total respondents who believe CI contributes to strategic decision-making by "Provides intelligence and suggestion to the senior managers", 31.7% were from the UK and 30.0% were from Other European countries. This result indicates that the UK CI managers are more likely to provide intelligence and suggestion to the senior managers, than the other European CI managers. However, the statistical analysis also revealed that 0.9% of the total respondents "Do not know" how CI contributes to strategic decision-making.

In order to determine if the company size had an affect on how CI contributes to strategic decision-making, a cross-tabulation by company turnover was carried out, and the results are presented in Table 6.20. Inspection of the Table 6.20 revealed that, from the 80.6% of the total respondents who believe CI contributes to strategic decision-making by "Up to date intelligence regarding business environment helps managers to make their decisions", 45.8% were companies with turnover of "Over 1bn"; 12.3% were companies with turnover of "501m – 1bn"; 5.7% were companies with turnover of "251m – 500m"; 8.4% were companies with turnover of "101m – 250m"; and 8.4% were companies with turnover of "Less than 100m". Moreover, 0.9% of the total respondents who "Do not know" how CI contributes to strategic decision-making were, 0.4% were companies with turnover of "251m – 500m"; and 0.4% were companies with turnover of "101m – 250m". This result indicates that the larger companies in terms of turnover are less likely to "Do not know" how CI contributes to strategic decision-making.

Regarding how does CI Contribute to implementing of a marketing strategy? The results from respondents, regarding this question were cross-tabulated by country and displayed in Table 6.21. The statistical analysis revealed that the top three ways that CI contributes to the implementation of marketing strategy were, 60.8% "Indicators from CI are used as an early warning system to assess success or failure", 53.7% "Provides information about competitors' reaction to the marketing strategy", and 42.7% "Checking the validity of the strategy". From the 60.8% of the total respondents who believe CI contributes to the implementation of

marketing strategy by "Indicators from CI are used as an early warning system to assess success or failure", 24.2% were from the UK and 36.6% were from Other European countries. In addition, from the 53.7% of the total respondents who believe CI contributes to the implementation of marketing strategy by "Provides information about competitors' reaction to the marketing strategy", 25.1% were from the UK and 28.6% were from Other European countries. Moreover, from the 42.7% of the total respondents who believe CI contributes to the implementation of marketing strategy by "Checking the validity of the strategy", 15.4% were from the UK and 27.3% were from Other European countries. However, The statistical analysis also revealed that 11.5% of the total respondents "Do not know" how CI contributes to the implementation of marketing strategy. This result indicates that there are group of CI managers among European countries who do not know how to integrate CI to the implementation of marketing strategy. Therefore, the results suggest that the CI managers in the UK and Other European countries believe CI contributes to setting marketing objective by, "Indicators from CI are used as an early warning system to assess success or failure", "Provides information about competitors' reaction to the marketing strategy", "Checking the validity of the strategy", "Provides feedback to enable adjustments to be made", followed by "Provides feedback about the marketing strategy performance in the market".

In order to determine if the company size had an affect on how CI contributes to the implementation of marketing strategy, a cross-tabulation by company turnover was carried out, and the results are presented in Table 6.21. Inspection of the Table 6.21 revealed that, from the 66.8% of the total respondents who believe CI contributes to the implementation of marketing strategy by "Indicators from CI are used as an early warning system to assess success or failure", 36.1% were companies with turnover of "Over 1bn"; 8.4% were companies with turnover of "501m – 1bn"; 2.2% were companies with turnover of "251m – 500m"; 6.2% were companies with turnover of "101m – 250m"; and 7.9% were companies with turnover of "Less than 100m".

Table 6.21 Cross-tabulation by country and company size regarding how CI contributes to implementing marketing strategy

Q14 in Percentage	COUNTRIES			TURNOVER					
Variable	**UK**	**European**	**Total**	**<100m**	**101-250**	**251-500**	**501-1bn**	**>1bn**	**Total**
Indicators from CI are used as an early warning system to assess success or failure.	39.9 *24.2*	60.1 *36.6*	**100** ***60.8***	13.0 *7.9*	10.1 *6.2*	3.6 *2.2*	13.8 *8.4*	59.4 *36.1*	**100** ***60.8***
Provides feedback about the marketing strategy performance in the market.	34.7 *11.5*	65.3 *21.6*	**100** ***33.0***	14.7 *4.8*	12.0 *4.0*	8.0 *2.6*	16.0 *5.3*	49.3 *16.3*	**100** ***33.0***
Provides feedback to enable adjustments to be made.	35.1 *11.9*	64.9 *22.0*	**100** ***33.9***	14.3 *4.8*	11.7 *4.0*	2.6 *.9*	6.5 *2.2*	64.9 *22.0*	**100** ***33.9***
Checking the validity of the strategy.	36.1 *15.4*	63.9 *27.3*	**100** ***42.7***	7.2 *3.1*	12.4 *5.3*	5.2 *2.2*	18.6 *7.9*	56.7 *24.2*	**100** ***42.7***
Provides information about competitors' reaction to the marketing strategy.	46.7 *25.1*	53.3 *28.6*	**100** ***53.7***	9.0 *4.8*	13.1 *7.0*	8.2 *4.4*	13.1 *7.0*	56.6 *30.4*	**100** ***53.7***
Do not know.**	61.5 *7.0*	38.5 *4.4*	**100** ***11.5***	15.4 *1.8*	00.0 *00.0*	19.2 *2.2*	15.4 *1.8*	50.0 *5.7*	**100** ***11.5***
Other	00.0 *00.0*	100.0 *.9*	**100** ***.9***	00.0 *00.0*	00.0 *00.0*	00.0 *00.0*	00.0 *00.0*	100.0 *.9*	**100** ***.9***

Normal: % Within Variables.
Italic: % of Total.

** Using Chi-Square test, the results of the analysis indicate there is a statistically significant form of association at the 5% level.

These results indicate that the companies with turnover of "Over 1bn" and"501m – 1bn", are more likely to use CI to contribute to the implementation of marketing strategy by "Indicators from CI are used as an early warning system to assess success or failure", than companies with smaller turnover. Moreover, 11.5% of the total respondents who "Do not know" how CI contributes to the implementation of marketing strategy were, 5.7% in companies with turnover of "Over 1bn"; 1.8% were companies with turnover of "501m – 1bn"; 2.2% were companies with turnover of "251m – 500m"; 0.0% were companies with turnover of "101m – 250m"; and 1.8% were companies with turnover of "Less than 100m".

Regarding is CI a central key of the marketing strategy formulation? The results from respondents regarding to, is CI a key component of the marketing strategy formulation, were cross-tabulated by country and displayed in Table 6.22. The statistical results indicate that, 34.4% of the total respondents believe that 'Sometimes' CI is a key component of marketing strategy formulation and 44.9% of the total respondents believes that 'Often' CI is a key component of marketing strategy formulation. From this 34.4%, 13.2% were from the UK and 21.1% were from Other European. Moreover, from this 44.9%, 17.6% were from the UK and 27.3% were from Other European. This result shows that the CI managers in the UK and Other European countries are more likely to consider CI as a key component of the marketing strategy formulation.

In order to determine if the company size had an affect on whether they consider CI a key component of the marketing strategy formulation, a cross-tabulation by company turnover was carried out, and the results presented in Table 6.23. Inspection of the Table 6.23 revealed that, the large companies in terms of turnover (over 1bn) are more likely ('Sometimes' to 'Often') to consider CI as a key component in marketing strategy formulation. In addition, Table 6.23 revealed that, the small companies in terms of turnover (less than 100m) are more likely ('Often' and 'Very often') to consider CI as a key component in marketing strategy formulation.

Table 6.22 Cross-tabulation by country regarding is CI a key of the marketing strategy formulation

Q15	UNITED KINGDOM					OTHER EUROPEAN					TOTAL				
Variable	**Never**	**Rarely**	**Some times**	**Often**	**Very often**	**Never**	**Rarely**	**Some times**	**Often**	**Very often**	**Never**	**Rarely**	**Some times**	**Often**	**Very often**
Is CI a central component of the MSF	00.0 *00.0*	50.0 *4.4*	38.5 *13.2*	39.2 *17.6*	51.9 *6.2*	00.0 *00.0*	50.0 *4.4*	61.5 *21.1*	60.8 *27.3*	48.1 *5.7*	00.0 *00.0*	100 *8.8*	100 *34.4*	100 *44.9*	100 *11.9*

Normal: % Within Variables.
Italic: % of Total.

Using Chi-Square test, the results of the analysis indicate there is no significant form of association at the 5% level.

Table 6.23 Cross-tabulation by country regarding is CI a key of the marketing strategy formulation

Q 15		Is CI a central component of the MSF			
< 100 m	Never	00.0 *00.0*	501 – 1 bn	Never	00.0 *00.0*
	Rarely	15.0 *1.3*		Rarely	25.0 *2.2*
	Sometimes	7.7 *2.6*		Sometimes	10.3 *3.5*
	Often	6.9 *3.1*		Often	13.7 *6.2*
	Very Often	29.6 *3.5*		Very Often	18.5 *2.2*
101 – 250 m	Never	00.0 *00.0*	> 1 bn	Never	00.0 *00.0*
	Rarely	00.0 *00.0*		Rarely	55.0 *4.8*
	Sometimes	6.4 *2.2*		Sometimes	66.7 *22.9*
	Often	12.7 *5.7*		Often	55.9 *25.1*
	Very Often	14.8 *1.8*		Very Often	33.3 *4.0*
251 – 500 m	Never	00.0 *00.0*			
	Rarely	5.0 *.4*			
	Sometimes	9.0 *3.1*			
	Often	10.8 *4.8*			
	Very Often	3.7 *.4*			

Regarding cross-tabulation: Countries, Turnover, and Industries. Table 6.24 presents a summary of cross-tabulation by Countries, Turnover, and Industries. The result shows that the top five industries were, 9.7% of the total respondents were from the "Chemicals" industry, 10.1% of the total respondents were from the "Industrial Products" industry, 12.8% of the total respondents were from the "Pharmaceutical" industry, 9.7% of the total respondents were from the "Consumer Products" industry, and 9.3% of the total respondents were from the "Telecommunication" industry. From the 9.7% of the total respondents from the "Chemicals" industry, 4.0% were from the UK and 5.7% were from Other European countries. In addition, from the 9.7% of the total respondents from the "Chemicals" industry, 6.2% were from

companies with turnover of 'over 1bn', 1.3% were from companies with turnover of '501m – 1bn', 1.8% were from companies with turnover of '251m - 500' and .4% were from companies with turnover of '101m – 250m'.

From the 10.1% of the total respondents from the "Industrial Products" industry, 3.1% were from the UK and 7.0% were from Other European countries. In addition, from the 10.1% of the total respondents from the "Industrial Products", 5.3% were from companies with turnover of 'over 1bn', 3.1% were from companies with turnover of '501m – 1bn', 1.3% were from companies with turnover of '251m - 500' and .4% were from companies with turnover of '101m – 250m'.

From the 12.8% of the total respondents from the "Pharmaceutical" industry, 4.4% were from the UK and 8.4% were from Other European countries. In addition, from the 12.8% of the total respondents from the "Pharmaceutical", 7.5% were from companies with turnover of 'over1bn', 1.3% were from companies with a turnover of '501m – 1bn', .9% were from companies with a turnover of '251m - 500', 2.6% were from companies with a turnover of '101m – 250m' and .4% were from companies with a turnover of 'less than 100m'.

From the 9.7% of the total respondents from the "Consumer Products" industry, 3.5% were from the UK and 6.2% were from Other European countries. In addition, from the 9.7% of the total respondents from the "Consumer Products", 7.0% were from companies with a turnover of 'over 1bn', .4% were from companies with a turnover of '501m – 1bn', 1.3% were from companies with a turnover of '251m - 500' and .9% were from companies with a turnover of '101m – 250m'.

Finally, from the 9.3% of the total respondents from the "Telecommunication" industry, 5.7% were from the UK and 3.5% were from Other European countries. In addition, from the 9.3% of the total respondents from the "Telecommunication", 7.0% were from companies with a turnover of 'over 1bn', 1.8% were from companies with a turnover of '501m – 1bn' and .4% were from companies with a turnover of 'less than 100m'.

Table 6.24 CROSS – TABULATION: COUNTRIES, TURNOVER, and INDUSTRY

CROSS – TABULATION	COUNTRIES			TURNOVER					
INDUSTRY	**UK**	**European**	**Total**	**<100m**	**101-250**	**251-500**	**501-1bn**	**>1bn**	**Total**
Banking/Financial	33.3 *.9*	66.7 *1.8*	**100.0** ***2.6***	0.00 *0.00*	0.00 *0.00*	0.00 *0.00*	50.0 *1.3*	50.0 *1.3*	**100.0** ***2.6***
Chemicals	40.9 *4.0*	59.1 *5.7*	**100.0** ***9.7***	0.00 *0.00*	4.5 *.4*	18.2 *1.8*	13.6 *1.3*	63.6 *6.2*	**100.0** ***9.7***
Communications	0.00 *0.00*	100.0 *3.5*	**100.0** ***3.5***	25.0 *.9*	0.00 *0.00*	0.00 *0.00*	0.00 *0.00*	75.0 *2.6*	**100.0** ***3.5***
Computers	57.1 *1.8*	42.9 *1.3*	**100.0** ***3.1***	0.00 *0.00*	0.00 *0.00*	14.3 *.4*	14.3 *.4*	71.4 *2.2*	**100.0** ***3.1***
Computers Services	33.3 *.4*	66.7 *.9*	**100.0** ***1.3***	0.00 *0.00*	0.00 *0.00*	0.00 *0.00*	66.7 *.9*	33.3 *.4*	**100.0** ***1.3***
Educational Services	14.3 *.4*	85.7 *2.6*	**100.0** ***3.1***	42.9 *1.3*	57.1 *1.8*	0.00 *0.00*	0.00 *0.00*	0.00 *0.00*	**100.0** ***3.1***
Energy	50.0 *2.6*	50.0 *2.6*	**100.0** ***5.3***	0.00 *0.00*	0.00 *0.00*	0.00 *0.00*	0.00 *0.00*	100.0 *5.3*	**100.0** ***5.3***
Food Manufacturing	18.2 *.9*	81.8 *4.0*	**100.0** ***4.8***	0.00 *0.00*	0.00 *0.00*	0.00 *0.00*	18.2 *.9*	81.8 *4.0*	**100.0** ***4.8***
Government	100.0 *.9*	0.00 *0.00*	**100.0** ***.9***	0.00 *0.00*	100.0 *.9*	0.00 *0.00*	0.00 *0.00*	0.00 *0.00*	**100.0** ***.9***
Health Care	75.0 *2.6*	25.0 *.9*	**100.0** ***3.5***	12.5 *.4*	25.0 *.9*	37.5 *1.3*	0.00 *0.00*	25.0 *.9*	**100.0** ***3.5***
Industrial Products	30.4 *3.1*	69.6 *7.0*	**100.0** ***10.1***	0.00 *0.00*	4.3 *.4*	13.0 *1.3*	30.4 *3.1*	52.2 *5.3*	**100.0** ***10.1***
Information	53.3 *3.5*	46.7 *3.1*	**100.0** ***6.6***	53.3 *3.5*	26.7 *1.8*	13.3 *.9*	6.7 *.4*	0.00 *0.00*	**100.0** ***6.6***
Insurance	0.00 *0.00*	100.0 *.4*	**100.0** ***.4***	0.00 *0.00*	0.00 *0.00*	100.0 *.4*	0.00 *0.00*	0.00 *0.00*	**100.0** ***.4***
Pharmaceuticals	34.5 *4.4*	65.5 *8.4*	**100.0** ***12.8***	3.4 *.4*	20.7 *2.6*	6.9 *.9*	10.3 *1.3*	58.6 *7.5*	**100.0** ***12.8***
Public Utilities	100.0 *1.3*	0.00 *0.00*	**100.0** ***1.3***	0.00 *0.00*	0.00 *0.00*	0.00 *0.00*	0.00 *0.00*	100.0 *1.3*	**100.0** ***1.3***
Consumer Products	36.4 *3.5*	63.6 *6.2*	**100.0** ***9.7***	0.00 *0.00*	9.1 *.9*	13.6 *1.3*	4.5 *.4*	72.7 *7.0*	**100.0** ***9.7***
Telecommunications	61.9 *5.7*	38.1 *3.5*	**100.0** ***9.3***	4.8 *.4*	0.00 *0.00*	0.00 *0.00*	19.0 *1.8*	76.2 *7.0*	**100.0** ***9.3***
Textiles	0.00 *0.00*	0.00 *0.00*	**0.00** ***0.00***	0.00 *0.00*	0.00 *0.00*	0.00 *0.00*	0.00 *0.00*	0.00 *0.00*	**0.00** ***0.00***
Transportation/Automotive	70.0 *3.1*	30.0 *1.3*	**100.0** ***4.4***	0.00 *0.00*	0.00 *0.00*	0.00 *0.00*	40.0 *1.8*	60.0 *2.6*	**100.0** ***4.4***
Other	29.4 *2.2*	70.6 *5.3*	**100.0** ***7.5***	47.1 *3.5*	0.00 *0.00*	5.9 *.4*	5.9 *.4*	41.2 *3.1*	**100.0** ***7.5***
Total	**41.4** ***41.4***	**58.6** ***58.6***	**100.0** ***100.0***	**10.6** ***10.6***	**9.7** ***9.7***	**8.8** ***8.8***	**14.1** ***14.1***	**56.8** ***56.8***	**100.0** ***100.0***

Normal: % Within Variables.
Italic: % of Total.

To keep the statistical analysis to an acceptable, meaningful and significant level; only some analysis of the top five industries was carried out. The results are presented in Appendix 11.

To sum, the descriptive statistics results described the basic features of the data in this study. The cross-tabulation results identified relations between cross-tabulated variables; it also highlighted the affects of countries and companies size on the respondents' answers. However, in order to reach conclusions that extend beyond the immediate data alone, there is a need for inferential statistics to be carried out.

6.4 Inferential Statistics

With inferential statistics, researchers are trying to reach conclusions that extend beyond the immediate data alone. For instance, researchers use inferential statistics to try to infer from the sample data what the population might think. Or, they use inferential statistics to make judgments of the probability that an observed difference between groups is a dependable one or one that might have happened by chance in their study (Trochim, 2000). For this study, the researcher used some major inferential statistics, this include the *t* test, Analysis of Variance (ANOVA), Factor analysis and Multiple Regression analysis.

6.4.1 Preliminary reliability assessment

Cronbach's alpha ("*the reliability coefficient*"), popularised in a 1951 article by Cronbach based on work in the 1940s by Guttman and others, is the most common estimate of internal consistency of items in a scale. Alpha measures the extent to which item responses obtained at the same time correlate highly with each other. Though widely interpreted as such, strictly speaking alpha is *not a measure of unidimensionality*. Rather, alpha is a measure of level of mean intercorrelation weighted by variances (in contrast to standardised item alpha, discussed below, which equalises variances), or a measure of mean intercorrelation for standardised data, stepped up for number of items. A set of items can have a high alpha and still be multidimensional. This happens when there are separate clusters of items (separate

dimensions) that intercorrelate highly, even though the clusters themselves do not intercorrelate highly. Also, a set of items can have a low alpha even when unidimensional if there is high random error.

In addition to estimating internal consistency ("reliability") from the average correlation, the formula for alpha also takes into account the number of items on the theory that the more items, the more reliable a scale will be. That is, when the number of items in a scale is higher, alpha will be higher even when the estimated average correlations are equal. As the number of items rises, alpha rises. However, as the number of items approaches sample size, the meaningfulness of alpha is compromised.

Moreover, the more consistent within-subject responses are, and the greater the variability between subjects in the sample, the higher Cronbach's alpha will be. Finally, alpha will be higher when there is homogeneity of variances among items than when there is not. The widely-accepted social science cut-off is that alpha should be 0.70 or higher for a set of items to be considered a scale, but some use 0.75 or 0.80 while others are as lenient as 0.60. That 0.70 is as low as one may wish to go is reflected in the fact that when alpha is 0.70, the standard error of measurement will be over half (0.55) a standard deviation (Garson, 2001).

Standardised item alpha. Standardised item alpha is a variant of alpha designed to be used to test k one-item parallel tests and is meant to be interpreted as the average Spearman-Brown-corrected reliability estimate from all possible splits in a series of applications of split half reliability on a single test. It is also the value of computed alpha when all scale items are standardized to have equal means and variances. Regular Cronbach's alpha will usually but not always be less than or equal to standardised item alpha. Both versions usually yield the same substantive conclusions and both versions are widely used. Some argue that the more restrictive standardised item alpha is appropriate when assuming classic parallel tests, otherwise conventional Cronbach's alpha should be used.

With regard to this research, the reliability assessment of the scales was conducted based on the internal consistency by Cronbach's alpha. This was regarded as a preliminary assessment

since internal consistency analysis by Cronbach's alpha does not ensure unidimensionality of the measures but instead assumes it exists (Hair *et al*, 1995).

The analyses were performed on SPSS with questions 5, 7, 8, and 10 which used scales with several items and the results are provided in Table 6.25. At this stage, no items were eliminated for the purpose of improving alpha values, but the items that may need to be removed for such purposes and the corresponding improved alpha values are noted in the table for reference.

For the entire sample (277 respondents) of the UK and Other European managers who were involved in CI, the overall (questions 5, 7, 8 and 10 in the survey, see Appendix 5) measures revealed good reliability, with alpha value of .8118 and Standardized item alpha value of 0.8198.

However, the reliability assessments were carried out separately on each question with scale (question 5, 7, 8 and 10), and the results are provided in Table 6.25. It appeared that the overall reliability of the scales exhibited good reliability, with alpha values ranging from .5608 for "Tool / systems used to acquire, access, store & share CI" and 0.7617 for "Sources for CI". For most of the factors, the alpha values were above 0.65 except the factor "Tool / systems used to acquire, access, store & share CI", of which the alpha were below 0.65 but still above 0.50.

However Bryman and Cramer (1995) and David Garson (2001) argued that, if the alpha will be higher when an item is deleted, the researcher infers that that item is not tapping the same construct as all of the other items and, therefore, it should be removed from the scale. Therefore, the decision was made to remove certain items in each question (see Table 6.25) to improve the value of alpha, as the removing of these items improved the alpha value (showing good reliability).

Examination of Table 6.25 (Improved Cronbach Alpha column) shows that the alpha value of 0.7617 for "Sources for CI" was improved to alpha value of 0.8965 by removing three items

from the assessment ('Suppliers and/or distributors', 'Debriefing of new staff previously working for competitors' and 'Other').

Table 6.25 Reliability analyses for measurements scales.

Factors	Variables	Cronbach Alpha	Improved Cronbach Alpha (Deleted Items)
Sources for CI	Customers	0.7617	**0.8965**
	Suppliers and/or distributors		X
	Consultants, bankers, lawyers, etc.		
	Social contacts		
	Databases		
	Debriefing of new staff previously working for competitors		X
	Agencies		
	Trade publications, catalogues etc.		
	Business periodicals		
	Newspapers		
	Government publications		
	Books		
	Trade shows conferences, etc.		
	Academic journals		
	Information services		
	Professional associations		
	Newsletters, memoranda		
	Internal reports		
	Other		X
Tool / systems used to acquire, access, store & share CI	Databases	0.5608	**0.6762**
	Secure intranet		
	Presentation software		
	Voice mail system		
	Fax machines, Electronic mail services		
	Group decision support systems		
	Dedicated CI process system		
	0ther		X
Techniques used to analyse CI	SWOT analysis	0.6622	**0.7468**
	Key Success Factors		
	Competitor profiling		
	Financial analysis		
	Win/lose analysis		
	STEP analysis		
	War gaming / role playing		
	Other		X
CI Contribution to MSF	Setting Marketing Objectives	0.7715	**0.7715**
	Strategic Analysis		
	Strategic Decision Making		
	Implementation and Control		

Table 6.25 also revealed that the alpha value of 0.5608 for "Tool / systems used to acquire, access, store & share CI" was improved to alpha value of 0.6762 by removing 'Other' item. With regard to the factor "Techniques used to analyse CI", the alpha value of 0.6622 was improved to alpha value 0.7415, by removing 'Other' item.

To conclude, the overall measure revealed good reliability, with alpha values ranging from 0.6762 to 0.8965. For most of the factors, the alpha values were above 0.70 except the factor of "Tool / systems used to acquire, access, store & share CI", of which the alpha value was below 0.70 but still above 0.50. Therefore, in subsequent study, the analyses was based on the modified scales with variables included is modified in Table 7.25.

6.4.2 Mean difference

The analyses in the present research moved on further to explore difference in the means between the UK and Other European CI managers. The test of mean differences in the way they use competitive intelligence between the UK and Other European CI managers was based on a general hypothesis (H2):

- Hypothesis (2): There is no difference between UK and European CI managers with regard to the way they use Competitive Intelligence.

The test was carried out with independent *t*-test and was performed in SPSS. The *t*-test is appropriate when researchers have a single interval dependent and a dichotomous independent, and wish to test the difference of means. The *t*-test may be used to compare the means of a criterion variable for two independent samples or for two dependent samples. The *t*-test assesses whether the means of two groups are *statistically* different from each other (Garson, 2001). Although the two samples (UK 94 and Other European 133, for more information see Table 5.1) were of unequal size, the assumption of homogeneity of variance in the independent *t*-test is more significant than the equality of the sample size (Hays, 1994). SPSS provides Levene's test for the equality of variances, and both separate-variance and

pooled-variance *t*-tests are performed. However, taken into consideration the view of the possibility that unequal sample size could cause the *t*-test function differently than intended, the Mann-Whitney U test was also performed for cross-validation in this and the following sections. A Mann-Whitney U test is a non-parametric test used to compare two independent groups of sampled data (Garson, 2001). Sandy (1990), argued that, the Mann-Whitney U test is commonly used as the nonparametric complement to the two-independent-samples *t*-test as it does not assume normality, and less sensitive to extreme observations and quite robust for departures from the assumption of the same distributions. However, Huck and Cormier (1996), argued that, "it is far more sensitive to differences in central tendency, so a statistically significant result almost certain to mean that the populations have different average". The test statistics are presented together with the *t*-test results.

Regarding the sources is used for CI. Table 6.26 reports the test statistics for testing level of significance for 'the CI sources used' between the UK and Other European CI managers. Examination of the statistics of Levene's test for variances in Table 6.26 revealed that the observed significance levels were greater than 0.01 for all the variables ($\rho < 0.01$). However, significant differences were found at the 0.05 level between the two samples in the mean scores of two variables 'customers', and 'consultants, bankers, lawyers'. Moreover, significant differences were found at the 0.10 level between the two samples in the mean scores with respect to 'government publications'. The nonparametric test indicated consistent results.

Inspection of Table 6.26 indicated that the mean scores of the UK managers on the variables 'customers' and 'government publications' were higher than the mean scores of the Other European managers. On the other hand, the mean scores of the Other European managers on the variable 'consultants, bankers, lawyers' were higher than the mean scores of the UK managers. The two groups mean scores on all other variables were not significantly different at the (0.10 level, 0.05 level, and 0.01 level), hence the hypothesis H2 was not rejected with regard to the other variables.

Table 6.26 Independent samples test (Sources are used for CI) between Group UK and Other European

	< 1 = Never .....5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Customers**	3.43**	3.13**	3.24	0.94	0.014	0.015
Suppliers /distributors	3.06	3.01	3.03	0.93	0.655	0.695
Consultants, bankers, lawyers, etc.**	2.80**	3.13**	2.99	0.96	0.011	0.033
Social contacts	3.05	2.93	2.98	0.95	0.346	0.216
Databases	3.91	3.72	3.80	1.01	0.153	0.193
Debriefing of new staff	2.72	2.64	2.67	1.03	0.587	0.652
Agencies	2.61	2.77	2.70	0.97	0.228	0.336
Trade publications, catalogues, etc.	3.83	3.78	3.80	0.92	0.691	0.331
Business periodicals	3.89	3.71	3.79	0.90	0.135	0.137
Newspapers	3.96	3.76	3.84	0.98	0.143	0.154
Government publications*	3.39*	3.14*	3.24	1.10	0.093	0.092
Books	2.62	2.60	2.61	1.06	0.897	0.761
Trade shows conferences, etc.	3.59	3.62	3.60	0.96	0.781	0.921
Academic journals	3.15	3.08	3.11	0.98	0.602	0.678
Information services	3.49	3.53	3.52	1.00	0.773	0.979
Professional associations	3.15	3.09	3.11	0.95	0.652	0.437
Newsletters, memoranda	3.18	3.14	3.16	1.05	0.795	0.638
Internal reports	3.48	3.30	3.37	1.04	0.192	0.164
Other	0.000	0.000	0.000	0.000	0.000	0.000

** Using a *t*-test and Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'customers', and 'consultants, and bankers, lawyers', was significant at the 5% level.
* Using a *t*-test and Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'government publications', was significant at the 10% level.

This suggests that there is no significant difference between UK managers and Other European managers with regard to the sources they use for their CI activity, except three sources 'customers', 'consultants, bankers, lawyers' and 'government publications' were significant difference at 0.10 level and 0.05 level (which is not very high).

In order to determine if the level of difference is significant with regard to 'the CI sources used' among all European managers, ANOVA test was carried out. Table 6.26 reports the statistics for testing level of significance for 'the CI sources used' among all European CI managers. Examination of the Table 6.27 revealed that the observed significant differences were found at the 0.10 level in two variables, 'Agencies' and 'Customers', among all European managers. Moreover, significant differences were found at the 0.05 level in one

variable "Government Publications'. Therefore, examining both tables for *t*-test and ANOVA we can state that two variables are common, 'Customers' and 'Government publications', although they have different levels of significance.

However, when the *t*-test was examined a further variable 'Consultants, bankers, lawyers, etc.' became significant yet was not significant in the ANOVA test. Likewise, the ANOVA test produced a variable 'Agencies', which was significant but remained insignificant in the *t*-test. As the ANOVA test examines the significant differences among all European managers this could explain why the 'Agencies' variable appeared in the ANOVA table and not in the *t*-test table.

This difference could be explained by the fact that different European countries have a different economy and different sources of information available to them. Although, the sizes of the company or type of industry are influential factors, which if taken into account could alter the results.

Table 6.27 ANOVA Test for 'the CI sources used' among all European managers

Customers*	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	20.215	14	1.444	1.687	**0.060**
Within Groups	*181.459*	*212*	*0.856*		
Total	**201.674**	**226**			
Agencies*	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	19.543	14	1.396	1.537	**0.99**
Within Groups	*192.483*	*212*	*0.908*		
Total	**212.026**	**226**			
Government publications **	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	37.882	14	2.706	2.433	**0.003**
Within Groups	*235.792*	*212*	*1.112*		
Total	**273.674**	**226**			

** Using ANOVA Test, the difference among all European managers, with respect to 'Government publications', was significant at the 5% level.
* Using ANOVA Test, the difference among all European managers, with respect to 'Customers' and 'Agencies', was significant at the 10% level.

Regarding the tools/systems, which used to acquire, access, store and share CI The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the "tools/systems which used to acquire, access, store and share CI". Inspection of the statistics of Levene's test for equality of variances in Table 6.28 revealed that the observed significance levels were greater than 0.01 for all variables.

As Table 6.28 indicates, the observed significance levels were less than 0.10 for the mean differences of the variable 'Group decision support systems'. Moreover, significant differences were found at the 0.05 level between the two samples in the mean scores of the variable 'Presentation software'. The nonparametric test indicated consistent results. This result suggests that UK managers would not perceive significantly different levels of the tools/systems which used to acquire, access, store and share CI as compared with Other European managers, except two variables 'Group decision support systems' and 'Presentation software' were significant difference at 0.10 level and 0.05 level (which is not very high). On the other hand, the mean scores of the Other European managers on the variables 'Group decision support systems' and 'Presentation software' were higher than the mean scores of the UK managers.

In order to determine if the level of difference is significant with regard to 'tools/systems which used to acquire, access, store and share CI' among all European managers, ANOVA test was carried out. Table 6.29 reports the statistics for testing level of significance for 'tools/systems which used to acquire, access, store and share CI' among all European CI managers. Examination of the Table 6.29 revealed that the observed significance levels were greater than 0.01 for all the variables. Inspection of the ANOVA Table 6.29 also illustrates significant differences at the 0.05 level, in two variables, 'Dedicated CI process system' and ' Fax machine, E-mail services'.

Table 6.28 Independent samples test (tools/systems which are used to acquire, access, store and share CI) between Group UK and Other European

	< 1 = Never ……..…… ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Databases	3.85	4.06	3.97	1.02	0.141	0.249
Secure intranet	3.76	3.89	3.83	0.97	0.358	0.760
Presentation software**	2.91	3.23	3.10	1.10	0.043	0.049
Voice mail system	2.39	2.50	2.45	1.00	0.450	0.197
Fax machines, Electronic mail services	3.53	3.31	3.40	1.09	0.127	0.109
Group decision support systems*	2.17	2.41	2.31	1.05	0.085	0.083
Dedicated CI process system	2.45	2.66	2.57	1.39	0.254	0.138
Other	0.000	0.000	0.000	0.000	0.000	0.000

** Using a *t*-test and Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Presentation software', was significant at the 5% level.

* Using a *t*-test and Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Group decision support systems', was significant at the 10% level.

Table 6.29 ANOVA Test for the tools/systems which are used to acquire, access, store and share CI

Fax machines, email services**	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	31.381	14	2.241	2.021	**0.018**
Within Groups	*235.139*	*212*	*1.109*		
Total	**266.520**	**226**			
Dedicated CI process system **	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	48.458	14	3.461	1.876	**0.030**
Within Groups	*391.092*	*212*	*1.845*		
Total	**439.551**	**226**			

** Using ANOVA Test, the difference among all European managers, with respect to 'Fax machines, Electronic mail services' and 'Dedicated CI process system', were significant at the 5% level.

This result suggests that all European managers would not perceive significantly different levels of the tools/systems which used to acquire, access, store and share CI, except two

variables Dedicated CI process system' and ' Fax machine, E-mail services' were significant difference at 0.10 level and 0.05 level (which is not very high). These variables are in complete contrast to those found to be significant in the *t*-test. This result illustrates that some countries have a different level of CI knowledge and various tools, systems that they can use. In some cases the CI manager may have the necessary knowledge to use certain tools and techniques but he / she may be restricted by the tools and systems provided by the company. Therefore, this could have affected their answer to this question. Again the sizes of the company or type of industry will determine which tools or systems they use depending upon the environment in which they operate. For examples, small companies with limited resources will use different tools / systems than bigger companies in the same industry. On the other hand, different industries will employ certain tools/ systems will be suitable to their industry but not necessarily suitable to other types of industry. The type of tools used will depend on the companies' needs and the nature of the industry.

Regarding to the techniques, which used to analyse CI. In same way as the previous sub-section, the independent *t*-test was performed on SPSS to examine differences in the variables mean scores of group 'UK managers' and 'Other European managers' with regard to "techniques, which used to analyse CI". Table 6.30 provides the test statistics, and Levene's test for equality of variances and statistics with unequal variance corrections are included since the two samples were of unequal sizes (nonparametric test statistics are included for cross-validation). The statistics of Levene's test for equality of variances in Table 6.30 revealed that the observed significance levels were greater than 0.01 for all the variables.

Examination of Table 6.30 reveals that the observed significance levels were less than 0.05 for the mean differences of all the variables between the two groups, which are consistent with the nonparametric test results. However, significant differences were found at the 0.01 level between the two samples in the mean scores with respect to 'win / loss analysis'. On the other hand, the mean scores of the Other European managers on the variable 'win / loss analysis' was higher than the mean scores of the UK managers.

Table 6.30 Independent samples test for the 'techniques which are used to analyse CI' between Group UK and Other European

	< 1 = Never .....5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
SWOT analysis	4.01	3.95	3.97	0.85	0.580	0.188
Key Success Factors	3.79	3.70	3.74	1.00	0.515	0.193
Competitors profiling	4.16	4.15	4.15	0.80	0.932	0.769
Financial analysis	3.72	3.76	3.74	0.87	0.758	0.502
Win / lose analysis ***	2.54**	2.99**	2.81	1.04	0.001	0.000
STEP analysis	2.73	2.69	2.71	1.18	0.797	0.887
War gaming / role playing	2.21	2.11	2.15	1.22	0.544	0.543
Other	0.000	0.000	0.000	0.000	0.000	0.000

*** Using a *t*-test and Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Win / lose analysis', was significant at the 1% level.

This suggests that there is no significant difference between UK managers and Other European managers with regard to the "techniques, which used to analyse CI", except one technique 'win / loss analysis' was significant difference at 0.01 level.

In order to determine if the level of difference is significant with regard to "techniques, which used to analyse CI" among all European managers, ANOVA test was carried out.

Table 6.31 ANOVA Test for the techniques that are used to analyse CI

Financial analysis *	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	16.049	14	1.146	1.587	**0.085**
Within Groups	*153.131*	*212*	*0.722*		
Total	**169.181**	**226**			
War gaming / role playing **	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	40.960	14	2.926	2.105	**0.013**
Within Groups	*294.643*	*212*	*1.390*		
Total	**335.604**	**226**			

** Using ANOVA Test, the difference among all European managers, with respect to 'War gaming / role-playing', was significant at the 5% level.
* Using ANOVA Test, the difference among all European managers, with respect to 'Financial analysis', was significant at the 10% level.

Table 6.31 reports the statistics for testing level of significance for "techniques, which used to analyse CI" among all European CI managers. Examination of the Table 6.31 revealed that the observed significant differences were found at the 0.10 level in a variable 'Financial analysis', among all European managers. Moreover, significant differences were found at the 0.05 level in one variable 'War-gaming / role-playing'.

This result suggests that all European managers would not perceive significantly different levels of the "techniques, which used to analyse CI", except two variables, 'Financial analysis' and 'War-gaming / role-playing' were significant difference at 0.10 level and 0.05 level (which is not very high). These variables are in complete contrast to one found to be significant in the *t*-test 'win / loss analysis'.

Regarding to what extent does CI contribute to marketing strategy formulation process. The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the "To what extent does CI contribute to marketing strategy formulation process". The independent *t*-test was conducted to identify whether 'UK' managers and 'Other European managers have different opinion to the level of contribution of the CI activity to marketing strategy formulation. The results of the *t*-test are provided in Table 6.32 (result from the nonparametric test are also included for cross-validation). Inspection of the statistics of Levene's test for equality of variances revealed that the observed significance levels were greater than 0.10 for the mean differences of all the variables between the two groups, which are consistent with the nonparametric test results. However, significant differences were found at the 0.01 level between the two samples in the mean scores with respect to 'Setting marketing objectives'. The nonparametric test indicated consistent results.

This result suggests that UK managers would not perceive significantly different levels of the "to what extent does CI contribute to marketing strategy formulation process" as compared with Other European managers, except one variables 'Setting marketing objectives' was significant difference 0.01 level (which is not very high).

Table 6.32 Independent samples test for 'to what extent does CI Contribute to MSF process' between Group UK and Other European

	< 1 = Never ....5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Setting Marketing Objectives***	3.39	3.10	3.22	0.84	0.009	0.010
Strategic Analysis	4.00	4.05	4.03	0.72	0.613	0.930
Strategic Decision Making	3.87	3.89	3.89	0.76	0.837	0.901
Implementation and Control	3.01	3.11	3.07	0.95	0.463	0.420

*** Using a *t*-test and a Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Setting Marketing Objectives', was significant at the 1% level.

On the other hand, the mean scores of the UK managers on the variable 'Setting marketing objectives' was higher than the mean scores of the Other European managers. Moreover, Inspection of the mean scores for 'UK' managers and 'Other European' managers indicates that both managers have the same opinion regarding to "To what extent does CI contribute to marketing strategy formulation process"; as the mean scores for both managers on the variables 'strategic analysis' (4.00 = often), 'Strategic decision making' (4.00 = often), and 'Implementation and control' (3 = sometime) were nearly the same. Therefore, we can suggest that both managers believe that ***Sometimes*** CI contributes to 'Setting marketing objectives' and the 'Implementation and Control of the marketing strategy'. However, both managers believe that ***Often*** CI contributes to 'strategic analysis' and 'Strategic decision making'.

In order to determine if the level of difference is significant with regard to "To what extent does CI contribute to marketing strategy formulation process" among all European managers, ANOVA test was carried out. Examination of the statistical results revealed that the observed significance levels were greater than 0.01 for all the variables. Inspection of the ANOVA results also revealed that there is no significant difference for any of the variables.

This result suggests that all European managers would not perceive significantly different levels of contribution of the CI activity to marketing strategy formulation. Therefore, all

European managers have the same opinion regarding the contribution of the CI into marketing strategy formulation.

Regarding is CI a key component of the marketing strategy formulation. The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the "Is CI a key component of the marketing strategy formulation". The independent *t*-test was conducted to identify whether 'UK' managers and 'Other European managers consider CI to be a key component of marketing strategy formulation. Inspection of the statistics of Levene's test for equality of variances in Table 6.33 revealed that the observed significance levels were greater than 0.01 for all variables. The nonparametric test indicated consistent results.

This result suggests that UK managers would not perceive significantly different levels of the "Is CI a key component of the marketing strategy formulation" as compared with Other European managers. On the other hand, the mean scores of the UK managers on the variable "Is CI a key component of the marketing strategy formulation" was higher than the mean scores of the Other European managers. Therefore, we can suggest that both managers believe that ***Often*** CI is a key component of the Marketing strategy formulation.

Table 6.33 Independent samples test for 'Is CI a key component of the marketing strategy formulation' between Group UK and Other European

	< 1 = Never ……..…….. ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Is CI a central component of the MSF	3.62	3.59	3.60	0.81	0.780 (0.785)	0.741

Using a *t*-test and Mann-Whitney Test, there is no difference between UK and Other European countries.

In order to determine if the level of difference is significant with regard to "Is CI a key component of the marketing strategy formulation" among all European managers, ANOVA test was carried out. Table 6.34 reports the statistics for testing level of significance for "Is CI

a key component of the marketing strategy formulation" among all European CI managers. Inspection of the ANOVA Table 6.34 also illustrates significant differences at the 0.10 level.

Table 6.34 ANOVA Test for 'Is CI a central component of the marketing strategy formulation'

Is CI a central component of the MSF	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	14.280	14	1.020	1.611	**0.078**
Within Groups	*134.240*	*212*	*0.633*		
Total	**148.520**	**226**			

* Using ANOVA test, the difference between all European managers, with respect to 'Is CI a central component of the MSF', was significant at the 10% level.

This result suggests that all European managers would perceive significantly different levels of contribution of the CI activity to marketing strategy formulation. Therefore, not all European managers have the same opinion regarding the contribution of the CI into marketing strategy formulation.

To sum, the *t-test* analysis and ANOVA analysis revealed difference as well as similarities between the UK and Other European CI managers in regard to whether there is difference between UK and Other European CI managers with regard to the way they practises (Hypothesis 2):

- There is no different between the UK and Other European CI managers with regard to the sources they use for CI activities. Accepted, except items 'customers', 'consultants' and 'government publication'.
- There is no different between the UK and Other European CI managers with regard to the tools/systems used to acquire, access, store and share CI. Accepted, except items 'group decision support systems' and 'presentation software'.
- There is no different between the UK and Other European CI managers with regard to the techniques used to analysis CI. Accepted, except item 'win/loss analysis'

- There is no different between the UK and Other European CI managers with regard to what extent does CI contribute to marketing strategy formulation. Accepted, except item 'setting marketing

6.4.3 Regression Analysis of relationship between CI and MSF

To enhance the understanding of the key issue of the relationship between CI and MSF, it is important to examine what variables lead to improvement of this relationship from CI manager's perspective. Furthermore, the relative importance of the variables need to be investigated to provide insights for UK and Other European CI managers to improve their way of using CI in MSF. In order for such analyses to support both theoretical and practical implications, it is crucial first to test for the significance of the impact of the variables on the overall level of responses to the question "CI is a key component of MSF".

Multiple regression analysis was used to discover which variables had a significant impact on "CI is a key component of MSF". Multiple regression analysis is a statistical tool for understanding the relationship between two or more variables. Multiple regression involves a variable to be explained (called the dependent variable) and additional explanatory variables that are thought to reduce or be associated with changes in the dependent variable (Garson, 2001).

Defining the model

The variables used for regression analysis are reproduced in Table 6.35:

Table 6.35 The variables used for multiple regression analysis

Dependent Variable	
CI is Key Component of MSF	
	Independent Variables
Q11	**How does CI Contribute to setting marketing objectives?** Providing useful intelligence, which helps to set achievable, marketing objectives. CI helps to achieve better understanding of the business environment. Providing information that can be a platform to develop marketing objectives Ensuring that marketing objectives are developed within a reality perspective Understanding competitors strategy and objectives Help managers to develop sensible and achievable marketing objectives. Do not know Other
Q12	**How does CI Contribute to marketing analysis?** CI techniques help to look at the big picture regarding business environment. CI analysis helps in a better understanding of the business environment. Using CI techniques can inform and support marketing analysis. CI can provide clear understanding of the market and add value to the analysis. Providing intelligence on aspects of the competitive environment. Helps managers to identify opportunities in the market and anticipate competitors' moves. Do not know. Other.
Q13	**How does CI Contribute to strategic decision-making?** Up to date intelligence regarding business environment helps managers to make their decisions. Focuses on what to achieve in the market and how to go about it. Assesses and evaluates likely competitors reaction. Provides intelligence and suggestion to the senior managers. Predicts the future position of products and markets. Do not know. Other.
Q14	**How does CI Contribute to implementing a marketing strategy?** Indicators from CI are used as an early warning system to assess success or failure. Provides feedback about the marketing strategy performance in the market. Provides feedback to enable adjustments to be made. Checking the validity of the strategy.

	Provides information about competitors' reaction to the marketing strategy. Do not know. Other.
Q18	**Which category is closest to the equivalent amount of your company turnover?** (As a dummy variable) Less than £100m. £251m. - £500m. More than £1bn. £101m. - £250m. £501m. - £1bn.
Q19	**Number of employees in your company?** (As a dummy variable) Less than 100 251 – 500 More than 1000 101 - 250 501 - 1000
Q20	**What industry is your company in?** (As a dummy variable[2])
	Country (As a dummy variable)

To discover which variables had a significant impact on "CI is a key component of MSF". Question 15: CI is a key component of MSF, was defined as the dependent variable, and the variables of: how CI contributes to the four stages of MSF, companies size, industry and country {questions 11, 12, 13, 14, (18, 19, 20 and country were dummy variables)} were used as independent variables. Multiple regression analysis was used to estimate the relationship between the independent (how does CI contribute to MSF) and the dependent variables (CI is a key component of MSF) from both perspectives of UK and Other European CI managers. The regression model was estimated for each independent variable in an equation of the form:

$$\mathbf{Y = a + b_1X_1 + b_2X_2 + \ldots + b_iX_i + e}$$

where Y = Dependent variable (CI is a key component of MSF).

a = Constant or intercept.

b_i = Regression coefficients for the corresponding X

X_i = Independent variables (how does CI contribute to the four stages of MSF.

e = a random disturbance term.

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[2] As the respondents who took part in this study covered over 20 different types of industries, it was important to categories these industries into 3 groups. Firstly, Fast moving industries: Banking/Financial; Communications; Computers; Computers Services; Information; Insurance; Pharmaceuticals; Telecommunications. Secondly, Intermediate industries: Educational Services; Food Manufacturing; Health Care; Consumer Products; Textiles; Other. Thirdly, Slow Industries: Energy; Chemicals; Government; Industrial Products; Public Utilities; Transportation/Automotive. These three groups were decided upon after consultation with Dr Charles Cui-Chi of UMIST University.

Data evaluation

For regression analysis to be valid, it should meet several requirements. First, the sample size should be adequately relative to the numbers of variables that included in the study. Sadly, there is no solid rule about this (Hays, 1994). Several authors recommend the minimum ratio of 3 to 5 observation for each independent variable in the variate (e.g., Hair *et al*, 1995; Speed, 1994). Some others suggest the required ratio of 15 to 20 (e.g., Steven, 1996; Hays, 1994). With 44 independent variables to be estimated in this research, the size of 227 valid responses were considered adequate according to the minimum ratio and statistic power for regression estimates (Cohen and Cohen, 1983).

Secondly, the basic assumptions of regression analysis include linearity between dependent and independent variables and independence, constant variance and normality of the error. For the present analysis, scatterplots of the individual variables indicated a general linear relationships between the dependent variable and the independent variables. The test of homoscedasticity was left after the model estimation since the variables are metric variables, which are best examined through the analysis of the residuals (Hair et al, 1995). Other evaluations of model adequacy were carried as part of the model estimation.

With SPSS variable selection procedure, stepwise selection was used to determine which of the forty-four independent variables to include in the final regression equation. Stepwise multiple regression is a way of computing regression in stages. In stage one, the independent best correlated with the dependent is included in the equation. In the second stage, the remaining independent with the highest partial correlation with the dependent, controlling for the first independent, is entered. This process is repeated, at each stage partialling for previously-entered independents, until the addition of a remaining independent does not increase R^2 by a significant amount (Garson, 2001). The final model was chosen based on the criteria of assessing the overall relationships of the variables and the basic assumption.

A basic assumption in examining sufficiency of the regression model is to study whether the model can be substantively enhanced within the conditions set by the available data (Cohen

and Cohen, 1983). The estimated residuals associated with the equation were assessed for systematic behaviour. Examination of the residual plots indicated no violations of the assumptions for the final regression model.

A key issue in interpreting the regression variate is the correlation among the independent variables. This is a data problem, not a problem of model specification. But it has substantial effects on the result of the regression procedure. First, it limits the size of the coefficient of determination and makes it increasingly more difficult to add unique explanatory prediction from additional variables. Second, and just as important, it makes determining the contribution of each independent variable difficult because the effects of the independent variables are "mixed" or confounded, owing to collinearity (Hair, *et al*, 1995). In the present analysis, multicollinearity was a major concern that may result from a certain amount of informal correlation between the independent variables since the theory posits that the dimensions represents the relationship of CI should not be equally orthogonal (Butler, Jr., 1991). The regression estimates are reported in Table 6.36:

In this regard two indices are commonly used: the tolerance and the variance inflation factors (VIF). The tolerance is the amount of variability of the selected independent variable not explained by the other independent variables. Thus very small tolerance values (and large VIF values) denote high collinearity (Hair, *et al*, 1995). The variance inflation factors (VIF) is closely related to the tolerance and is defined as the reciprocal of the tolerance. As a common rule, if tolerance is less than 0.10, a problem with multicollinearity is indicated (Hair, *et al*, 1995). When tolerance is close to 0 there is high multicollinearity of that variable with other independents and the B and Beta coefficients will be unstable. The more the multicollinearity, the lower the tolerance, the more the standard error of the regression coefficients.

Table 6.36 Multiple Regression, the impact of the independent variables on 'CI is key component of MSF'

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
7	.511	.261	.237	.71	1.936

ANOVA

Model	Sum of Squares	df	Mean Square	*F*	Sig.
Regression	38.532	7	5.505	10.932	.000
Residual	109.264	217	.504		
Total	147.796	224			

Coefficients

Dependent variable: CI is a central component of the MSF

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Stats.	
	B	Std. error	Beta			Tolerance	VIF
(Constant)	2.953	.100		29.560	.000***		
< 100 employees	.892	.217	.363	4.121	.000***	.438	2.283
Contribute to SMA by supporting MA	.294	.100	.181	2.942	.004***	.896	1.116
Contribute to IMS by checking the validity of the strategy	.250	.098	.153	2.547	.012**	.949	1.053
Contribute to IMS by enabling adjustments to be made	.322	.102	.188	3.155	.002***	.960	1.042
Less than 100m	- .543	.232	- .207	- 2.342	.020**	.437	2.288
Fast moving industries	.243	.097	.146	2.490	.014**	.986	1.014
Contribute to SMO by providing, useful intelligence	.231	.102	.140	2.253	.025**	.885	1.130

* $\rho < .10$, ** $\rho < .05$, *** $\rho < .01$.

Moreover, when VIF is high there is high multicollinearity and instability of the B and Beta coefficients. Therefore, as a common rule, if VIF is higher than 10, a problem with multicollinearity is indicated (Hair, *et al*, 1995). In this analysis, the tolerance and VIF values for the final equation were within the acceptable range, as Table 6.36 shows. This confirmed that interpretation of the regression variate coefficients in the final model should not be affected adversely by multicollinearity.

Other statistics indicated the goodness of fit of the model is also presented in Table 6.36. The adjusted coefficient of determination (adjusted R^2) modifies measure of the coefficient of determination (R^2) by taking into account the number of predictor variables included in the regression equation. The F test is used to test the significance of R, which is the same as testing the significance of R^2, which is the same as testing the significance of the regression model as whole. If F (ρ) < 0.05, then the model is considered significantly better than would be expected by chance. In the present analysis, the F statistic, and its observed significant value (ρ) provide information for testing the hypothesis that the population R^2 is 0. The Durbin-Watson (D.W) test is a test for autocorrelation. The value of (D.W), ranges from 0 to 4. A value of 2 indicates no autocorrelation; 0 indicates positive autocorrelation; and 4 indicate negative autocorrelation. As a common rule (D.W), should be between 1.5 and 2.5 to indicate independence of observations (Garsoh, 2001). Therefore, the (D.W) test statistic gives information in regard to the hypothesis of no autocorrelation in the error terms of regression model, where a value that is close 2 suggests that errors are not auto correlated. On inspection of these statistics, they indicated acceptable goodness of fit of the final regression model.

Results

The general hypothesis H1 concerns a set of factors that have an impact on the "CI is a Key component of MSF" from UK and Other European CI managers' perspectives. As Table 6.36 shows, the final regression equation testing H1 was significant for variables {"CI contribute to Setting Marketing Objective (SMO) by: Providing useful intelligence, which helps to set achievable, marketing objectives"; "CI contribute to Strategic Marketing Analysis (SMA) by: Using CI techniques can inform and support marketing analysis"; "CI contribute to

Implementation Marketing Strategy (IMS) by: checking the validity of the strategy"; "CI contribute to Implementation Marketing Strategy (IMS) by: Provides feedback to enable adjustments to be made"; "companies with Less than 100 employees"; "Companies with turnover less than 100m"; and "Companies in fast moving industries"} with an *F*-statistic of 10.932 ($\rho < .000$). These variables explained 23.7 % of the variance in "CI is Key component of MSF" (Adjusted $R^2 = .237$). The statistically significant standardised coefficient estimates of .140 for "CI contribute to Setting Marketing Objective (SMO) by: Providing useful intelligence, which helps to set achievable, marketing objectives"; .181 for "CI contribute to Strategic Marketing Analysis (SMA) by: Using CI techniques can inform and support marketing analysis"; .153 for "CI contribute to Implementation Marketing Strategy (IMS) by: checking the validity of the strategy"; .188 for "CI contribute to Implementation Marketing Strategy (IMS) by: Provides feedback to enable adjustments to be made"; .363 for "companies with Less than 100 employees"; and .146 "Companies in fast moving industries"} However, the one variable with statistically significant standardised coefficient estimates of - .207 for "Companies with turnover less than 100m" cannot be supported for multiple regression equation. The estimated regression for CI is a key component of MSF is expressed as:

CI is a key component of MSF =	0.363	"companies with Less than 100 employees"
	0.181	"CI contribute to Strategic Marketing Analysis (SMA) by: Using CI techniques can inform and support marketing analysis"
	0.153	"CI contribute to Implementation Marketing Strategy (IMS) by: checking the validity of the strategy"
	0.188	"CI contribute to Implementation Marketing Strategy (IMS) by: Provides feedback to enable adjustments to be made"
	- 0.207	"Companies with turnover less than 100m"
	0.146	"Companies in fast moving industries"
	0.140	"CI contribute to Setting Marketing Objective (SMO) by: Providing useful intelligence, which helps to set achievable, marketing objectives"

It is important to point out that all the variables that were excluded from the final regression equation had no significant impact on whether CI is a key component of MSF. The interpretation of this equation is that those independent variables in the equation have a positive effect on "CI is a key component of MSF". An increase in any of these variables is expected to increase the opinion of CI managers to consider "CI is a key component of MSF". However, the variable (- 0.207 "Companies with turnover less than 100m") has a negative impact on "CI is a key component of MSF". This value is not surprising as one reason for such result could be that, smaller companies are less likely to have the extra resources to invest heavily in CI. Therefore, they are less likely to consider that CI is a key component of MSF. In addition, this result could also be explained by the fact that smaller companies may not be as aware of the importance of using CI in general.

Examination of the results indicates that the statistically significant standardised coefficient estimates of 0.363 for "companies with Less than 100 employees", one reason for this result could be that, the fewer the number of employees in the organisation, the more likely the organisation will be able to integrate CI throughout the organisation and it is more likely that they would be able to share the intelligence as the communication process will be less complicated. The result also shows that the statistically significant standardised coefficient estimates of 0.146 for "Companies in fast moving industries". This result was expected, as usually the companies who operate in fast moving industries, are more likely to need and use CI as they operate in a competitive and changeable market, also more likely to need to stay up to-date with the changes in the marketplace in order to achieve and maintain competitive advantage.

To sum, it can be said that, based on the unstandardised coefficients, it is more important for CI managers to note that, "CI contribute to Setting Marketing Objective by: Providing useful intelligence, which helps to set achievable, marketing objectives"; "CI contribute to Strategic Marketing Analysis by: Using CI techniques can inform and support marketing analysis"; "CI contribute to Implementation Marketing Strategy by: checking the validity of the strategy"; "CI contribute to Implementation Marketing Strategy by: Provides feedback to enable adjustments to be made"; "companies with Less than 100 employees"; and "Companies in fast

moving industries". Therefore, the regression analysis of relationship between CI and MSF indicated that there is a significant relationship between the variables in the regression equation and MSF.

6.4.4 Factor Analysis (Sources of information used for CI)

Factor analysis is used to uncover the latent structure (dimensions) of a set of variables. It reduces attribute space from a larger number of variables to a smaller number of factors and as such is a "non-dependent" procedure.

The main aims of using factor analysis for this study are: to reduce the number of variables and to detect structure in the relationships between variables, that is to classify variables (Bryant and Yarnold 1995; Kline, Rex B. 1998; Garson 2001). For this research, the complete 19 variables in question five (the sources used for CI) were first assessed by factor analysis with 'Principle Component Analysis' and by 'Varimax' SPSS rotation. The principle component analysis (PCA) By far the most common form of factor analysis, PCA seeks a linear combination of variables such that the maximum variance is extracted from the variables. It then removes this variance and seeks a second linear combination that explains the maximum proportion of the remaining variance, and so on. In principal component analysis, the objective is to account for the maximum portion of the variance present in the original set of variables with a minimum number of composite variables called principal components (Hatcher, Larry 1994).

However, Varimax rotation is an orthogonal rotation of the factor axes to maximise the variance of the squared loadings of a factor (column) on all the variables (rows) in a factor matrix, which has the effect of differentiating the original variables by extracted factor. That is, it minimises the number of variables which have high loadings on any one given factor. Each factor will tend to have either large or small loadings of particular variables on it. A varimax solution yields results which make it as easy as possible to identify each variable with a single factor. This is the most common rotation option (Garson 2001).

By using principle component analysis and varimax rotation, the resulting factor pattern identified six factors that did not match categories. The factors loading patterns are shown in Table 6.37.

In order to find out whether some of the measurements items would converge to match, further PCA estimation was conducted. Since most of the factors were measured by more than three or four items, the proceeding PCA process adopted and factors extraction by 'Number of factors'. With this method, the first round of estimation results in mismatched five factors, with a majority of items falling into the five-factor categories.

Table 6.37 Principle Component Analysis: Rotated Component Matrix

Sources are used for CI	1	2	3	4	5	6
Business periodicals	0.857					
Trade publications, catalogues, etc.	0.812					
Newspapers	0.799					
Government publications	0.562					
Newsletters, memoranda	0.478					
Information services		0.868				
Professional associations		0.730				
Internal reports		0.424				
Consultants, bankers, lawyers, etc.			0.720			
Academic journals			0.543			
Social contacts			0.540			
Books			0.494			
Agencies			0.432			
Suppliers and/or distributors				0.846		
Customers				0.708		
new staff previously working for competitors					0.783	
Databases					0.522	
Trade shows conferences, etc.						0.801

Through inspection of the factoring results and eliminating conflicting items by degrees, a solution was achieved after seven rounds of factoring. In the solution, four factors emerged. The PCA solution of the factors is presented in Table 6.38.

Table 6.38 A summary of the solution of factors identified in PCA.

Factor 1:	**Rotated Component Matrix**	**Cronbach alpha**
Business periodicals	0.850	0.8051
Trade publications, catalogues, etc.	0.820	
Newspapers	0.793	
Newsletters, memoranda	0.593	
Government publications	0.577	
Academic journals	0.544	
Books	0.539	
Factor 2:		
Information services	0.818	0.5812
Professional associations	0.606	
Internal reports	0.516	
Factor 3: External Informants		
Social contacts	0.708	0.5391
Consultants, bankers, lawyers, etc.	0.671	
Agencies	0.468	
Databases	*0.344*	
Factor 4:		
Customers	0.819	0.4793
Suppliers and/or distributors	0.705	
Trade shows conferences, etc.	*0.397*	
New staff previously working for competitors	*0.286*	

Hair (1995) argues that, in interpreting factors, a decision must be made regarding which factor loadings are worth considering. A factor loading represents the correlation between an

original variable and its factor. The factor analyst can employ the concept of statistical power to specify factor loadings considered significant for differing sample sizes. Hair (1995) addressed guidelines for identifying significant factor loading based on sample size. According to his guidelines, in a sample of 200 respondents, factor loadings of 0.40 and above are significant. In this research the sample size was 227; therefore this sample size was closest to the significance guideline set for a sample size of 200.

Examination of Table 6.38 indicates that, there is one variable in Factor 3 (Database with value of 0.344) which is below the guidelines set for identifying significant factor loadings. That value is set at 0.40 (Hair 1995). Moreover further inspection of Table 6.38 identified two variables in Factor 4 ('Trade shows, conferences, etc.' with value of 0.397, and 'New staff previously working for competitors' with value of 0.286) which were also below the guidelines set for identifying significant factor loadings at 0.40. For these reasons the three variables which fall below the level of significance will be eliminated from the factor analysis. As result, a further factor analyses was carried out without these three variables.

Through inspection of the factoring results and eliminating conflicting items by degrees, a final solution was achieved after five rounds of factoring. In the final solution, four factors emerged (see Table 6.39).

As Table 6.39 shows, the significant factor loadings were greater than 0.40 for all the variables in each factor, and over 55% (nearly 60%) variances were explained by the four factors. Given the nature of the items in the factors, factor one is given the name "Public Sources" as most of the sources in that factor are public sources and available to any member of the public. Regarding factor two, it is given the name "Private Sources" as most the sources have a private nature. With regard to factor three, it has been named "External Informants" as it included sources such as, 'Social contacts', 'Consultants, bankers, lawyers, etc.', and 'Agencies'. Factor four has been named "Commercial Partners" as it include the following sources: 'Customers' and 'Suppliers and/or distributors'; these sources considered to be partners of the business. The PCA final solution of the factors is presented in Table 6.39.

Table 6.39 A summary of the final solution of factors identified in PCA.

Factor 1: Public Sources	**Rotated Component Matrix**	**Cronbach alpha**
Business periodicals	0.866	
Trade publications, catalogues, etc.	0.825	
Newspapers	0.810	
Government publications	0.575	
Newsletters, memoranda	0.547	0.8031
Factor 2: Private Sources		
Information services	0.852	
Professional associations	0.659	
Internal reports	0.535	0.6812
Factor 3: External Informants		
Consultants, bankers, lawyers, etc.	0.709	
Social contacts	0.694	
Academic journals	0.521	
Agencies	0.506	
Books	0.473	0.6363
Factor 4: Commercial Partners		
Customers	0.829	
Suppliers and/or distributors	0.780	0.6584

Note: Cumulative percent of variance explained 59.875%.

The final solution (the 4 factors above) was used for further tests with regression analysis in the following sub-section.

6.4.5 Regression Analysis of the Sources used for CI and MSF

The four factors identified and explained above could also be used to assess the impact of the sources, which CI managers use to help them in their marketing strategy formulation process.

A regression analyses was carried out with the factors identified above in order to assess the impact of each factor (sources of intelligence CI manager use) on each stage of the MSF (Setting Marketing Objectives, Strategic Analysis, Strategic Decision Making and Implementation and Control).

The variables used for regressions analyses are reproduced in Table 6.40:

Table 6.40 Dependent and independent variables for regression analyses.

Multiple Regression 1	**Multiple Regression 2**	**Multiple Regression 3**	**Multiple Regression 4**
Dependent Variable	**Dependent Variable**	**Dependent Variable**	**Dependent Variable**
Setting Marketing Objectives	Strategic Analysis	Strategic Decision Making	Implementation and Control
Independent Variables			
Factor 1: Public Sources	Factor 2: Private Sources	Factor 3: External Informants	Factor 4: Commercial Partners
Company turnover (Dummy Variables)	Number of employee (Dummy Variables)	Industry (Dummy Variables)	Country (UK/Other European)

To discover which factors (sources of intelligence CI manager use) had a significant impact on each stage of the MSF, a multiple regression analyses were carried out. Each stage of the MSF was defined as the dependent variable, and the four factors from the factor analysis (Public Sources, Private Sources, External Informants and Commercial Partners) were used as independent variables; moreover, Company turnover, Number of employee, Industry and Country were included in the regression equation as dummy independent variables.

The regression (1) estimates are reported in Table 6.41:

Table 6.41 Multiple Regression 1, the impact of the independent factors (sources of intelligence CI managers use) on setting marketing objectives.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
4	.398	.159	.144	.78	1.990

ANOVA

Model	Sum of Squares	df	Mean Square	*F*	Sig.
Regression	25.550	4	6.388	10.470	.000
Residual	135.437	222	.610		
Total	160.987	226			

Coefficients Dependent variable: Setting Marketing Objectives

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Stats.	
	B	Std. error	Beta			Tolerance	VIF
(Constant)	3.111	.058		53.241	.000***		
Commercial Partners (F4)	.235	.052	.279	4.493	.000***	.983	1.018
Public sources (F1)	.151	.052	.179	2.908	.004***	.998	1.002
Companies with turnover of 251m-500m	.578	.186	.194	3.109	.002***	.969	1.032
Companies with less than 100 employees	.474	.159	.185	2.984	.003***	.985	1.015

* $\rho < .10$, ** $\rho < .05$, *** $\rho < .01$.

In this analysis, the tolerance and VIF values for the final equation were within the acceptable range, as Table 6.41 shows. This confirmed that interpretation of the regression variate coefficients in the final model should not be affected adversely by multicollinearity. With regard to Durbin-Watson (D.W) test, Table 6.41 shows D.W value nearly 2. Therefore, a value of 2 indicates no autocorrelation. On inspection of these statistics, they indicated acceptable goodness of fit of the final regression model.

The estimated regression for the type of information required to Setting Marketing Objectives is expressed as:

Setting Marketing Objectives =	0.279	Commercial Partners (F4)
	0.179	Public sources (F1)
	0.194	Companies with turnover of 251m-500m
	0.185	Companies with less than 100 employees

It is important to point out that all the variables that were excluded from the final regression equation had no significant impact on Setting Marketing Objective. The interpretation of this equation is that those independent factors in the equation have a positive effect on "Setting Marketing Objective". An increase in any of these factors is expected to increase the impact on "Setting Marketing Objective".

Examination of the results indicates that the statistically significant standardised coefficient estimates of 0.279 for "Commercial Partners (F4)" and 0.179 "Public Sources (F1)", one reason for this result this could be explained by the fact that, in setting marketing objective stage, there are intelligence required which help managers to set achievable (SMART) objectives. As the regression equation shows that, this intelligence information could be obtained using commercial partners (F4) and public sources (F1). The results also indicate that the statistically significant standardised coefficient estimates of 0.194 for companies with turnover of 251m-500m.

Examination of the results indicates that the statistically significant standardised coefficient estimates of 0.185 for "companies with Less than 100 employees", one reason for this result could be explained by the fact that, in the organisations, the fewer the number of employees is, the more likely the organisation will be able to integrate CI throughout the organisation and they are more likely to use the intelligence gathered in Setting Marketing Objectives, as the intelligence communication process will be less complicated.

The estimates of Multiple Regression (2) for Strategic Marketing Analysis are reported in Table 6.42:

Table 6.42 Multiple Regression 2, the impact of the independent factors (sources of intelligence CI managers use) on Strategic Marketing Analysis.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
3	.388	.151	.139	.67	2.021

ANOVA

Model	Sum of Squares	df	Mean Square	*F*	Sig.
Regression	17.909	3	5.970	13.197	.000
Residual	100.875	223	.452		
Total	118.784	226			

Coefficients Dependent variable: Strategic Marketing Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Stats.	
	B	Std. error	Beta			Tolerance	VIF
(Constant)	4.031	.045		90.296	.000***		
Commercial Partners (F4)	.182	.045	.250	4.058	.000***	1.000	1.000
Private Sources (F2)	.168	.045	.232	3.756		1.000	1.000
External Informants (F3)	.134	.045	.185	3.002	.003***	1.000	1.000

* $\rho < .10$, ** $\rho < .05$, *** $\rho < .01$.

In this analysis, the tolerance and VIF values (1.000) for the final equation were within the acceptable range, as Table 6.42 shows. This confirmed that interpretation of the regression variate coefficients in the final model should not be affected adversely by multicollinearity. With regard to Durbin-Watson (D.W) test, Table 6.42 shows D.W value nearly 2. Therefore, a value of 2 indicates no autocorrelation. On inspection of these statistics, they indicated acceptable goodness of fit of the final regression model.

The estimated regression for the type of information required to Strategic Marketing Analysis is expressed as:

Strategic Marketing Analysis =	0.250	Commercial Partners (F4)
	0.232	Private Sources (F2)
	0.185	External Informants (F3)

It is important to point out that all the factors that were excluded from the final regression equation had no significant impact on Strategic Marketing Analysis. The interpretation of this equation is that those independent factors in the equation have a positive effect on "Strategic Marketing Analysis". An increase in any of these factors is expected to increase the impact on "Strategic Marketing Analysis".

Examination of the results indicates that the statistically significant standardised coefficient estimates of 0.250 for "Commercial Partners (F4)", 0.232 for "Private Sources" and 0.185 for "External Informants", one reason for this result could be explained by the fact that, in strategic marketing analysis, there are intelligence required which help to better understanding of the business environment. As the regression equation shows that, this intelligence information can be obtained using private sources (F2), commercial partners (F4) and external informants (F3).

The estimates of Multiple Regression (3) for Strategic Decision Making are reported in Table 6.43:

Table 6.43 Multiple Regression 3, the impact of the independent factors (sources of intelligence CI managers use) on Strategic Decision Making.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
6	.483	.233	.212	.67	1.921

ANOVA

Model	Sum of Squares	df	Mean Square	*F*	Sig.
Regression	30.113	6	5.019	11.163	.000
Residual	98.909	220	.450		
Total	129.022	226			

Coefficients Dependent variable: Strategic Decision Making

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Stats.	
	B	Std. error	Beta			Tolerance	VIF
(Constant)	3.870	.050		77.973	.000***		
Commercial Partners (F4)	.209	.045	.277	4.671	.000***	.993	1.007
Less than 100 employees	.801	.207	.349	3.867	.000***	.427	2.343
Private Sources (F2)	.120	.045	.158	2.640	.009***	.969	1.032
External Informants (F3)	.123	.046	.162	2.671	.008***	.943	1.060
Less than 100m	-.558	.217	-.228	-2.570	0.11**	.444	2.254
500-1000employes	-.391	.187	-.125	-2.094	.037**	.979	1.022

* $\rho < .10$, ** $\rho < .05$, *** $\rho < .01$.

In this analysis, the tolerance and VIF values for the final equation were within the acceptable range, as Table 6.43 shows. This confirmed that interpretation of the regression variate coefficients in the final model should not be affected adversely by multicollinearity. With regard to Durbin-Watson (D.W) test, Table 6.43 shows D.W value of 1.921. Therefore, this value indicates no autocorrelation. On inspection of these statistics, they indicated acceptable goodness of fit of the final regression model.

The estimated regression for the type of information required to Strategic Decision Making is expressed as:

Strategic Decision Making =	0.277	Commercial Partners (F4)
	0.349	Less than 100 employees
	0.158	Private Sources (F2)
	0.162	External Informants (F3)
	-0.228	Less than 100m
	-0.125	Companies 500-1000 employees

It is important to point out that all the factors that were excluded from the final regression equation had no significant impact on Strategic Decision Making. The interpretation of this equation is that those independent factors in the equation have a positive effect on "Strategic Decision Making". An increase in any of these factors is expected to increase the impact on "Strategic Decision Making".

Examination of the results indicates that the statistically significant standardised coefficient estimates of 0.277 for "Commercial Partners (F4)", 0.158 for "Private Sources (F2)" and 0.162 for "External Informants (F3)", one reason for this result could be explained by the fact that, in strategic decision making, there are up to date intelligence regarding the business environment required which helps managers to make their decisions. As the regression equation shows that, this intelligence information can be obtained using commercial partners (F4), private sources (F2) and external informants (F3).

Examination of the results also indicates that the statistically significant standardised coefficient estimates of 0.349 for "companies with Less than 100 employees", as it has been mentioned before, one reason for this result is that, the organisations with fewer numbers of employees will be more likely to be able to integrate CI throughout the organisation and they

are more likely to share the intelligence as the intelligence communication process will be less complicated.

In the other hand, the results also indicates that the statistically significant standardised coefficient estimates of -0.125 for "companies with 500-1000 employees", one reason for this result could be that, the organisations with higher numbers of employees are less likely to be able to integrate CI throughout the organisation and they are less likely to share the intelligence as the intelligence communication process will be more sophisticated.

However, the variable (-0.228 "Companies with turnover less than 100m") has a negative effect on "Strategic Decision Making". This value is not surprising as one reason for such result could be that, smaller companies are less likely to have the extra resources to invest heavily in CI. Therefore, they are less likely to consider that CI is a key component of MSF. In addition, this result could also be explained by the fact that smaller companies may not be as aware of the importance of using CI in general.

The estimates of Multiple Regression (4) for Implementation & Control are reported in Table 6.44:

Table 6.44 Multiple Regression 4, the impact of the dependent factors (sources of intelligence CI managers use) on Implementation & Control.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
4	.414	.172	.157	.88	1.618

ANOVA

Model	Sum of Squares	df	Mean Square	*F*	Sig.
Regression	35.366	4	8.842	11.502	.000
Residual	170.643	222	.769		
Total	206.009	226			

Coefficients Dependent variable: Implementation & Control

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Stats.	
	B	Std. error	Beta			Tolerance	VIF
(Constant)	3.038	.063		48.522	.000***		
External Informants (F3)	.243	.060	.254	4.053	.000***	.949	1.054
Commercial Partners (F4)	.206	.058	.216	3.525	.001***	.996	1.004
Less than 100 employees	.970	.267	.335	3.627	.000***	.438	2.282
Less than 100m	-.869	.283	-.281	-3.072	.002***	.447	2.236

* $\rho < .10$, ** $\rho < .05$, *** $\rho < .01$.

In this analysis, the tolerance and VIF values for the final equation were within the acceptable range, as Table 6.44 shows. This confirmed that interpretation of the regression variate coefficients in the final model should not be affected adversely by multicollinearity. With regard to Durbin-Watson (D.W) test, Table 6.44 shows D.W value of 1.618. Therefore, this value indicates no autocorrelation. On inspection of these statistics, they indicated acceptable goodness of fit of the final regression model.

The estimated regression for the type of information required to Implementation & Control is expressed as:

Implementation & Control =	0.254	External Informants (F3)
	0.216	Commercial Partners (F4)
	0.335	Less than 100 employees
	-0.281	Less than 100m

It is important to point out that all the factors that were excluded from the final regression equation had no significant impact on Implementation & Control. The interpretation of this equation is that those independent factors in the equation have a positive effect on "Implementation & Control". An increase in any of these factors is expected to increase the impact on "Implementation & Control".

Examination of the results indicates that the statistically significant standardised coefficient estimates of 0.254 for "External Informants (F3)" and 0.216 for "Commercial Partners (F4)", one reason for this result that, the implementation & control required intelligence and feedback about the performance of the strategy to enable adjustments to be made. As the regression equation shows that, this intelligence information could be obtained using external informants (F3) and commercial partners (F4).

Examination of the results also indicates that the statistically significant standardised coefficient estimates of 0.335 for "companies with Less than 100 employees", as it has been mentioned before, one reason for this result is that, the organisations with fewer numbers of employees will be more likely to be able to integrate CI throughout the organisation and they are more likely to share the intelligence as the intelligence communication process will be less complicated.

However, the variable (- 0.283 "Companies with turnover less than 100m") has a negative effect on "Strategic Decision Making". One reason for such result could be that, smaller companies are less likely to have the extra resources to invest heavily in CI. Therefore, they are less likely to consider that CI is a key component of MSF. In addition, this result could also be explained by the fact that smaller companies may not be as aware of the importance of using CI in general.

To sum, the statistical result of regression analysis of sources used for CI and MSF, indicated that there is positive association, between CI managers perceptions of its importance in Setting Marketing Objectives and the use of Commercial Partners (F4) and Public sources (F1) as sources of intelligence; between importance of Strategic Marketing Analysis and Private Sources (F2), Commercial Partners (F4) and Private Sources (F2); between importance of Strategic Decision Making and Commercial Partners (F4), Private Sources (F2) and External Informants (F3); and importance of Implementation & Control of the marketing strategy and External Informants (F3) and Commercial Partners (F4). Therefore, the CI managers could use the factors (sources of intelligence) in the regression equation for their marketing strategy formulation. The analysis also indicated that companies with less than 100 employees are more likely to have a positive relationship, while companies with turnover less than 100m more likely to have a negative relationship.

6.5 Follow up Interviews

The aim of the follow up interviews (see Appendix 9) is to clarify some of the answers, which the respondents gave in the questionnaire, and particularly expand on the opinions of the CI managers regarding the contribution of CI to MSF.

Of those respondents who filled in a questionnaire, only 31 people agreed to a follow up interview. When the researcher contacted them sadly from this 31 only 16 agreed to have a follow up interview. From the 15 who had originally agreed but then declined, 2 had left their position, 4 were on holiday, and 9 others changed their mind for various reasons. Of the 16

people who agreed to a follow up interview, 9 of those were the same respondents who took part in the preliminary stage (semi-structure interviews). It is important to point out that of the 16 CI managers who agreed to the follow up interviews, 10 of them were responsible for both the CI and Marketing departments in their companies. The other 6 were only responsible for the CI activities in their company, which was separate from the marketing department.

In the follow up interviews, the respondents were asked to clarify their answer to question 15, which asked them if CI was a key component of the MSF. There were various answers to this question. The majority of respondents gave examples from their working experience of how CI contributes to MSF.

The respondents were asked if the marketing staff in their company would have the same opinion as them regarding the extent of CI contribution to MSF. There were two distinct opinions among the group. The first group agreed that the marketing staff would have the same opinion because they felt that the CI department and the marketing department work very closely together in order to define the intelligence needed for the marketing department. This opinion could have been influenced by the fact that 10 of the 16 respondents carried out both the CI and marketing roles within the company. The second group disagreed with the statement that marketing staff would have the same opinion as CI managers for various reasons. The most notable reason was that the knowledge about use of CI and its benefits was poor among managers in general throughout those companies.

The respondents were also asked whether CI staff are actively involved in the process of setting marketing objectives or just to provide intelligence to marketing staff. There were two distinct opinions among respondents. 12 of the 16 respondents confirmed that the CI staff in their company were actively involved in the process of setting marketing objectives. Again, this opinion could have been influenced by the fact that 10 of the 16 respondents carried out both the CI and marketing roles within the company. The other 4 respondents indicated that in their company the role of the CI staff was just to provide intelligence and so they were not actively involved in the setting of marketing objectives.

The respondents were also asked if the CI staff and marketing staff carry out separate strategic analysis. If yes, how do they collaborate information and how do they decide on the final strategic analysis? There were two categories of respondent. 10 of them confirmed that they carry out joint analysis together with their marketing colleagues. 6 of them confirmed that they do separate analysis. Within the group who confirmed that they do separate analysis, there were a further two opinions. The first opinion (1 respondent) stated that the CI group carry out their separate analysis and then simply hand it over to the marketing department. The second opinion (5 respondents) stated that the analysis from both CI and marketing staff complement each other.

Regarding the decision making process, respondents were asked whether CI staff were actively involved in the strategic decision making process or is their role only to provide intelligence.11 of the respondents confirmed that they are involved in the marketing strategy decision making process but they also state that they are less involved at the corporate strategy level. Five confirmed that they are not involved in the decision making process and that their job is just to provide intelligence to the decision makers.

At the end of the interviews each respondent was asked if it would be possible to interview the marketing manager of their company in order to ascertain their views on the contribution of CI to marketing. As mentioned above, 10 of the respondents were carrying out the role of both CI and marketing within their company, 4 people did not agree to the researcher speaking to the marketing manager in their company. As this left only 2 respondents, it was felt that it would not be representative of marketing managers' opinions as a whole. Therefore, this would be recommended for future research to investigate the marketing managers views regarding CI activities.

It is important to point out that the opinions of the respondents in the follow up interviews were not representative enough due to such a small sample size. Also, the majority of the sample were either CI managers or CI/marketing managers not marketing managers. One of the aims of the follow up interviews was to establish an opinion from the marketing managers regarding the contribution of CI to MSF. As a result, it is important not to draw any strong

conclusion from the findings of these interviews before more further, in-depth research is carried out.

6.6 Conclusion

In this chapter empirical data analyses were reported in detail in regard to the key research issues of the current state of competitive intelligence in Europe, whether competitive intelligence is a key component of marketing strategy formulation and whether there is different between the UK and Other European CI managers in the way they use competitive intelligence. The testing of the hypotheses provided empirical evidence that bears important implications for key issues under the present study, for both competitive intelligence and marketing managers. The comparative analyses revealed differences as well as similarities between the UK and Other European CI managers in regard to the above issues. To give an overview of the results, the hypotheses and the decisions on the testing results are summarised in Table 6.45.

The findings from the comparative analyses in this chapter have provided important information for the understanding of the current state of competitive intelligence in Europe. The tests of hypotheses revealed significant differences and similarities with regard to whether there is different between the UK and Other European CI managers in the way they use competitive intelligence. One of the most important findings is that the understanding of the relationships between competitive intelligence and marketing strategy formulation. These findings give valuable insights into these critically important issues that cannot be tapped by the managers themselves and were not available in previously received studies. Examining these issues from competitive intelligence managers prospective, the analyses in this research provide unique, detailed information in the context of competitive intelligence and marketing strategy formulation. Further research is needed to investigate these issues in greater detail from marketing managers prospective.

Table 6.45 Summary of the hypothesis tests

Key issues		Hypotheses	Test	Decision
CI is a key component of marketing strategy formulation	H_1	Competitive Intelligence is a key component of marketing strategy formulation	*t* test, U test, ANOVA, Frequency, Multiple, Regression.	Accepted
There is no difference between UK and Other European CI managers with regard to the way they practises CI.	H_2	There is no different between the UK and Other European CI managers with regard to the sources they use for CI activities.	*t* test, U test Factor analysis ANOVA	Accepted, Except items 'customers', 'consultants' and 'government publication'
	H_2	There is no different between the UK and Other European CI managers with regard to the tools/systems used to acquire, access, store and share CI.	*t* test, U test ANOVA	Accepted, Except items 'group decision support systems' and 'presentation software'.
	H_2	There is no different between the UK and Other European CI managers with regard to the techniques used to analysis CI.	*t* test, U test ANOVA	Accepted, Except item 'win/loss analysis'
	H_2	There is no different between the UK and Other European CI managers with regard to what extent does CI contribute to marketing strategy formulation.	*t* test, U test ANOVA	Accepted, Except item 'setting marketing objectives'
There is no difference between UK and Other European CI managers with regard whether CI is a key component of MSF.	H_3	There is no different between the UK and Other European CI managers with regard to whether CI is a key component of marketing strategy formulation.	*t* test, U test ANOVA	Accepted

Overall, with these findings the present research has made important contribution to the body of the knowledge in the area of competitive intelligence and marketing strategy formulation. For the sake of clarity, the managerial implication based on the test results will be discussed in the light of the theoretical framework in the next chapter.

Chapter Seven: Conclusion

7.1 Introduction

Building upon the understanding of the received studies in CI and marketing strategy, this research project proposed a relational-centred framework within which four key issues were examined in the context of Competitive Intelligence and Marketing Strategy Formulation:

a) The current status of competitive intelligence in European companies;
b) The way competitive intelligence managers use competitive intelligence;
c) The relationships between competitive intelligence and marketing strategy formulation;
d) Whether competitive intelligence is key component of marketing strategy formulation.

First and most importantly, through the work described in the previous chapters, the project has achieved the following primary objectives introduced in the first chapter:

1. To review and evaluated the theoretical and empirical work related to 'competitive intelligence' and 'marketing strategy formulation'.

2. To establish the current status of competitive intelligence in European companies.

3. To examine the view of European senior managers towards competitive intelligence.

4. To investigate how competitive intelligence contribute to marketing strategy formulation.

5. To establish if managers, consider competitive intelligence to be a key component of marketing strategy formulation.

6. To identify the difference between UK and Other European managers in the way they

practice competitive intelligence.

7. To explore the implications of the above findings for improving the way managers use competitive intelligence, also how managers can integrate competitive intelligence into marketing strategy formulation process.

Chapter 2 is concerned with marketing strategy. It began with addressing the hierarchy of strategy and the contribution of marketing to business. Chapter two also addressed that, even though there are many kinds of tools, techniques, and schools of thought, managers and academics still lack a framework, outlining a set of activities and processes needed to develop and implement plans. A review of the literature suggests two possible reasons for this apparent limited understanding of how such strategies are made. Firstly, because scholars usually have differentiated marketing strategy formulation issues from marketing strategy implementation issues. Secondly, much of the research on strategy planning is based on either researcher conceptualisations of what it should be or what it is in practice. Building upon the received theories of marketing strategy as well as responding to the criticisms in the literature, a research framework was proposed focusing on the stages of MSF which included four stages: setting marketing objectives, marketing analysis, strategic decisions making, and implementation and control of the marketing strategy.

The literature review available on the subject of marketing strategy (chapter two) highlighted the importance of understanding the internal and external business environment when developing marketing strategies and indeed many methods and tools were discussed in order to understand the business environment. However, some of the literature review available on the subject failed to address the fact that the change in the business environment is continuous, therefore companies must be continuously monitoring these changes in the environment and be able to act accordingly. Scholarly researchers (Groom and David, 2001), have found that the majority of companies sufficiently audit their internal environment, but many lack the method to correctly and precisely assess the external environment. Many companies lack ongoing formal process for collecting, assimilating, and converting competitive information to intelligence that is useful for marketing strategy formulation.

In chapters three and four, the main streams of the received theories of CI were reviewed. The literature on Competitive Intelligence (CI), presented a general outline and description of the subject matter. This is from the perspectives of both scholars and practitioners, who explain how to develop a competitive intelligence system and the resource commitments involved. Scholars go into the details of CI in different countries, contrasting the experiences of USA and Japan. The literature also highlighted how CI can be utilised in the different kinds of departments and levels of an organisation, specifically corporate, business unit and functional. The literature addressed the importance of measuring the effectiveness of CI activities. The literature available also gives a fair estimate of resource commitments, basing primarily on the case studies and research projects carried out mainly by SCIP, again concerning US firms. Of the many case studies found, there were none on UK companies. The focus in the literature was on companies such as IBM, Motorola and Nutrasweet. Also the detail was primarily concerned with the success of the CI efforts, not on how any problems were overcome. Building upon the received theories of CI as well as responding to the criticisms in the literature, a research framework was proposed focusing on the working relationships between Competitive Intelligence and Marketing Strategy Formulation.

Chapter five introduced the general bases of hypothesis generation. This together with the research framework generated test hypotheses for two key issues: firstly, asking whether CI is a Key component of MSF; secondly, whether there is a difference between UK and Other European CI managers with regard to the way they practice CI. The chapter also introduced the methodologies used in the present research together with discussing on the justification of the choice of certain analytical techniques. Appropriate research design and analytical techniques were identified using the most recent development in the social sciences and in particular in business and marketing.

In chapter six, empirical data were reported in detail with regard to the key research issues of the current status of CI in European companies, the way CI managers use CI, the relationships between CI and MSF, and whether CI is a key component of MSF. The testing of the hypothesis provided empirical evidence that bears important implications for CI activities and the key issues under the present study. The comparative analysis revealed differences as well

as similarities between the UK and Other European CI managers with regard to the above key issues. Relevant theoretical implications were also discussed in each sub-section in the chapter.

In the following section 7.2, some discussions are presented on the managerial implications of the findings from the present study, with the aim to add to the understanding by the academic and CI managers in particular. In the subsequent subsections the implications are discussed in the light of the findings in regard to 'the contribution of CI activities to MSF'. Section 7.3 discusses research limitations; while section 7.4 provides future research direction.

7.2 Main Contributions and Managerial Implications

It is believed that the present study makes contributions to the literature of CI, offers some useful information to companies in general and CI managers in particular.

First, the present study synthesised the argument in the CI literature on the way managers use CI and on how to integrate CI into MSF, and has put a framework in an empirical investigation into the most important issues in the CI and MSF context.

Secondly, this research views CI from a new perspective by attempting to investigate the factors influencing the relationships between CI and MSF from a CI managers point of view. The present study provides strong evidence that, CI is a key component of MSF process. It also provides strong evidence for the contribution of CI to MSF process. The study makes the point that the use of CI activities in the marketing strategy can be achieved by integrating CI into each stage of MSF. With regard to this point, this study offers both CI scholars and management in European companies, mainly CI managers and to some extent marketing managers, insights relating to the development and application of CI into MSF in practical terms.

Thirdly, the present study provides a clear picture regarding the current status of CI in European companies, it provides useful empirical data and information that could helps CI managers to see certain areas in which possible improvements could be introduced to achieve better way of using CI. Therefore, the findings of this research have provided better understanding for conducting CI in an effective way. It also provided important empirical evidence for further research on the issues of the way to use CI in an effective way.

Fourthly, a major contribution of the study could stem from the suggestions proposed as to how CI activities could be integrated to MSF process (see subsections 7.2.1 and 7.2.2). These suggestions have provided important information for the understanding of the relationship between CI and MSF. Furthermore, these suggestions have provided evidence in support of new efforts to investigate the related issues such as using these suggestions to integrate CI into MSF, and the level of CI involvement in MSF process in the future research.

Fifthly, it notes that at present little has been published on the use of CI in marketing in general and on the use of CI in MSF in particular. This has lead to their being a huge gap in terms of academic literature available on the subject of CI and marketing strategy. This study is the first of its kind to address in detail not only 'why' but also 'how' CI could be integrated to MSF. Therefore, this research goes some way in filling part of this gap and could be a platform for further research by academic bodies in order to try to cover any remaining gaps in the knowledge.

Overall, with these findings the present research has contributed to the body of the knowledge in CI research in the area of MSF. The findings and their implications have provided valuable information for advancing theories in CI and improving managers' knowledge on the related key issues underlying the practical development and integration of CI into MSF process.

Managerial Implications

The previous chapter described in detail the data analyses with regard to the research hypotheses: 'CI is a key component of MSF' and 'there is no difference between UK and

Other European CI managers with regard to the way they practice CI'. The statistical findings of this study were discussed in the pervious chapter. This section discusses their managerial implications for the European CI managers and companies.

The implications discussed in this section are not meant to generalise the research findings to an extent of a set of "universal truths", but to add to the understanding by academics, business executives and CI managers and provide some practical pointers for improved approaches to the practices of CI and to the integration of CI activities to MSF. In this sense, the potential value in the discussion is not in providing the business practitioners with "what to do", but a valid foundation and directions for them to search for "the best to do" in their own specific context.

In subsection 7.2.1, the implications of the findings with regard to 'the current status of CI in European companies' are discussed in general context. In subsection 7.2.2, the implications of the findings with regard to 'the contribution of CI to MSF' are discussed in general context.

7.2.1 The current status of CI in European companies

As discussed in detail in previous chapters, the fast changing business environment and the globalisation of competition has resulted in the need for companies to fully understand the effect and consequences of these changes on their position in the market, and be able to make the necessary adjustments in their practices and their strategic planning, in order for the company to develop and maintain competitive advantage in the market. Many companies have recognised the importance of CI as being an essential tool in the understanding of the external business environment and in providing the intelligence needed for the decision makers in the company.

The importance of good practice of CI has been widely acknowledged in many researches; it is however often unnoticed in management practice. This research indicated that the need for CI is growing rapidly. However it seems that there are some barriers preventing good CI practices. This research has highlighted both encouraging and worrying signs regarding the practice of CI among European managers. Findings from this research indicate that CI

managers need a clear and practical set of guidelines, which could help them in carrying out their job. They need the understanding of "how" rather than "why" they practice CI. Their problem lies in the fact that most of the literature available on the subject of CI is still highlighting the importance of "why" managers use CI when in fact all managers who participated in this research already fully understood "why" CI was carried out. However it was also evident that they lacked the knowledge in "how" to carry out their CI activities to gain maximum benefit. It is clear from this research that the practice of CI in Europe requires a great deal of commitment in order to improve the current status. It is also clear that the companies recognised the need for CI, methods and activities but found it difficult to use them to their full potential to gain maximum benefits.

The following section will highlight the managerial implications of some of the main findings regarding the current state of CI among European managers.

With regards to what companies actually call the activity of gathering and analysing information about competitors, the results of this research were encouraging as over half of the respondents (for more information refer to Table 6.7) called such activities 'Competitive Intelligence'. This indicates that many companies recognised the importance of using CI as a tool for gathering and analysing information about competitors and the external environment. The main implication of companies calling such activity 'Competitive Intelligence' is that they are recognising the importance of CI and helping to increase the credibility of the identity of CI. This credibility is very important in order for CI managers to carry out their job due to the greater recognition of their role within the company. However, many companies called such activities a different name other than 'Competitive Intelligence'. This result is worrying as it indicates that many companies do not fully understand or recognise CI as being a vital role in the company. This makes the job of the CI managers more difficult as other managers may not be able to recognise the CI role as being important, this could make the communication process with other departments more difficult.

Therefore a lot of education must be carried out among companies so they recognise the importance and benefits of classing their activities of gathering and analysing information

about competitors as 'Competitive Intelligence'. In doing so they will harmonise the concept of CI throughout European companies thus increasing its overall profile and credibility which in turn will lead to more recognition.

Regarding the main reasons why European CI mangers undertake CI activities, the most common reason was that it helped the strategic planning process (for more information refer to Table 6.8). This is very encouraging, as this result indicates that many European companies are using their CI activities in strategic planning which gives benefit in the long-term not just short-term benefit. What is worrying is that the reason 'identify new customer requirements' was bottom of their list of reasons for using CI. Although UK companies were slightly better at recognising the importance of meeting customers' needs than their European counterparts, it was still their lowest priority. This is worrying as many companies failed to recognise the importance of satisfying the customers' needs and requirements. Meeting customer needs is vital for the survival of any company as the main aim of any company is to provide a service or product that will satisfy customer needs. Failing to recognise and satisfy the needs of the companies' customers will result in a competitor product or service meeting these needs thus increasing their market share.

When asked what is the reasons why companies undertake CI activities, 4 participants from the semi structured interviews study and 2 participants in the questionnaire study indicated that they don't know why they undertake CI. The 4 respondents from the interviews went on to clarify that they only undertook CI because their senior managers told them to do this job. The implications of this is that these managers are more likely to fail at carrying out CI duties due to a lack of the basic understanding of why such a process should be carried out. This also implies that if they do not understand why they are doing it they will certainly not be able to carry it out properly in order to obtain maximum benefit. Failure of this process will mean another bad experience of CI, which encourages the opinion among managers that CI is not a good investment as it is of no significant value to the company. Therefore, companies who want to use CI to their advantage must ensure that their staff are aware of the reasons why CI is used and how it is used effectively. This could be achieved by in-house training for the CI staff or by enlisting the help of a specialised consultant. Moreover, company managers must

also identify their individual needs to the CI managers so that their job of collecting and analysing the relevant information is made easier, thus making the entire process more useful and meaningful.

With regard to the attitudes of European senior managers about CI in their companies, the majority of the respondents were either undecided or don't know as to their senior managers attitude about CI in their company. Many participants in the semi structured interview study expressed that the lack of support from senior managers was the main barrier to the development of CI in their company. They felt that it was very difficult for them to promote CI activities in the company as they had little authority therefore support from senior managers would have been of great help in overcoming this barrier. Others stressed that the culture and politics, which existed within the organisation, prevented them getting the necessary support to improve their job. A senior manager in a leading pharmaceutical company who also happened to be in charge of CI activities highlighted one good example of the importance of senior managers support for CI. This company had a well-established department with 9 full time staff working in the area of CI. As the CI manager was also the senior strategic planning manager he had the authority to make sure that everyone in the company understood the importance of CI and what was required of them in order to help the CI department function effectively. When this manager was asked how he made people aware of CI in his company, he replied, "All managers in our company are aware of the CI department, therefore I do not need to do anything". This shows that the support of the senior management is vital in promoting and supporting CI activities in the company. If the senior managers show enthusiasm and support for CI activities they will help CI staff to be more effective by creating a more productive environment in which they can carry out their duties and gain the maximum benefits.

One worrying issue which is evident in the research is that in general CI managers attribute blame for the lack of CI development in their company to senior managers and other factors such as politics and culture of the company. However, the question should be addressed, what are the CI managers doing in order to gain the support of their senior managers? The reality is that the CI managers should be more proactive in gaining support for their efforts. This can be

done through CI managers holding education sessions focusing on highlighting the benefits that CI could bring to the success of the company, how it could be beneficial in improving their strategic decision making and how information that other managers would come across could possibly be used to help the CI process and many other CI areas. The CI manager could establish a network with other managers, which could overcome the problem of political and cultural issues in the company, thus allowing CI managers to gain more support and also to allow information to be shared more freely.

Another way, which could improve the effectiveness of CI activities, is to allow CI managers to attend senior managers meetings. Firstly, the very presence of CI managers at a senior management meeting will help to present the CI function as being just as vital as the other senior managers' functions. The presence of the CI manager at these meetings is also of benefit to the senior managers as they will be able to communicate directly with the CI manager regarding any concerning issues. The senior manager may have queries regarding what intelligence is available on these issues and if it is not presently available when will it be available. This will help the senior managers to start recognise the effort and importance of gaining the relevant intelligence needed to solve their concerning issues. On the other hand this will also help the CI manager to identify the intelligence needed for senior managers. This will also help the CI manager to focus their effort to provide the intelligence in a meaningful way.

With regard to the tools/systems used to acquire, access, store and share CI, the majority of the respondents indicated that 'database' and 'secure intranet' are the most common tools and systems used to carry out these tasks. This is encouraging as it suggests that some companies are investing in such systems in order to help and improve the CI process in their companies. However, even though many companies are investing in such tools there are still many problems facing CI managers in the company concerning this issue. Participants in the semi structure interview expressed concerns that even though their company had such systems in place, other senior managers still relied heavily on the CI manager to provide even the most simplest of intelligence. Although this intelligence was already available on these systems the senior manager was still reluctant to use such systems to access this intelligence. One of the

participants in the semi structure interviews pointed out that "it would be more efficient if people in our company used the secure intranet more". The implications of this fact is that in many companies, CI staff carry out the most basic of tasks when ultimately the entire purpose of investing in such a system is so that all members of staff can access the system in order to obtain the intelligence they need. As a result CI staff waste a lot of time doing jobs, which could easily be carried out by other members of staff. They compromise the time they should be using to acquire and process information and turning it into more meaningful intelligence.

It is important to point out that CI staff are partly to blame for this situation as perhaps they did not do enough to train other staff members in the workings of such systems. They should offer a structured training programme within the company, which makes people more aware of the tools and systems available and more importantly how to use them effectively in order to obtain any existing intelligence. Another suggestion would be for the company to invest in a 'dedicated CI system' rather than investing in a 'database' or a 'secure intranet'. A 'dedicated CI system' would be more associated and more recognisable as being the tool or system to use to obtain some intelligence. This does not mean that a CI dedicated system should be the only tool used or that it should replace the use of a 'database' or 'secure intranet'. If companies want to use many different tools or systems they must ensure that all members of staff must understand the purpose and aim of each system and be aware of how they can be used together to obtain maximum benefit.

Regarding the techniques used to analyse CI, the result of the research indicates that CI managers mainly use SWOT analysis and Competitor profiling for CI analysis. It also indicated that they are less likely to use STEP analysis, war gaming/role playing and win/lose analysis (for more information refers to Table 6.4). This result was further supported by the opinions of the semi structured interviewees; they explained that the main reason for only using SWOT analysis is due to their limited knowledge of other techniques. This is a very worrying issue because if they limit the techniques they use they in turn limit the power of the intelligence they obtain. In certain situations SWOT analysis may not be the most suitable technique to use, however the CI manager may have no knowledge in any other techniques and as a result the intelligence generated could lose some of its power. The implications of this

are that the CI manager is not carrying out CI activities in the most effective way. One solution to this problem is for the CI manager to access his / her strengths and weakness and aim to improve these weaknesses. This may require him / her to admit his weaknesses to senior managers and ask for the appropriate training in all aspects of CI activities. In this case more training is required in the types of techniques available and more importantly the CI manager should understand which technique should be used in a particular situation and why. It is prudent for the company to employ individuals who have sufficient knowledge in all aspects of CI and if the company find any gaps in their knowledge they should provide the necessary training from the outset. This will promote the smooth and effective operation of the CI department, which in turn will benefit the company in the short and long term.

With regard to measuring the effectiveness of CI activities it is important to state that measuring the effectiveness is a vital step in improving the CI activities in the company. Firstly it highlights how well or how poorly CI managers are carrying out their job, and it helps to highlight any potential areas of weakness which need effort and commitment in order to improve the status of CI and increase its effectiveness to company performance and success. Secondly, by measuring the effectiveness of CI to the company it can identify the benefit, which CI brings to the company, which in turn will promote the profile of CI within the company and prove that company investment in CI was justified.

The result of this research indicates that the majority of respondents used 'action taken' and 'market share improvements' as being the main type of measure used to access the effectiveness of CI activities. The problem with using 'market share improvement' as a performance measure is that it is very difficult to prove that an increase in market share is due to CI activities alone. This is because many factors could contribute to improving market share such as, new product developed, promotion and advertising campaigns or investing more in sales staff etc. Therefore, CI managers must give significant attention when using such a measure as failure to use suitable measures to highlight the effectiveness and benefits of the CI activities may result in the loss of credibility of the CI profile.

Another issue which is a cause for concern is the fact that 9 participants from the semi structured interviews and 17 respondents from the questionnaire admitted that they did not know how to measure the effectiveness of CI activities in their companies. This is worrying as it means that they fail to highlight any strengths and weaknesses in their practices. Failure to deal with any weaknesses and failure to highlight the benefits of CI will ultimately reduce its credibility. Therefore it is essential that all CI managers are able to effectively measure their CI performance on a continuous basis and to deal with any weaknesses if and when they arise. By doing this they will increase the effectiveness of their CI activities and the end result will be improved company performance.

The current problems facing CI managers, which were evident from this research and which were discussed in this section, can be attributed to two main factors.

Firstly, it is evident that many CI managers lack the full knowledge required to carry out effective CI activities. Many respondents admitted that they had no formal training in the area. Many developed their knowledge and understanding of the subject through personal reading of the literature available and by attending conferences such as those operated by SCIP. Those respondents who did receive formal training stated that it was limited to a 3 to 5 days training course operated by consultants or in-house training. This amount of education and training is inadequate, as it does not prepare CI managers well enough in order to carry out such a vital job. Other vital jobs within the company, such as marketing managers or accounting managers, are carried out by individuals who have received at least 4 years formal and specific training in their particular field, through various undergraduate and graduate degrees. In the same context, the CI manager should receive the same level of training as their counterparts in other departments. This issue brings about and relates to the second point, which is the fact that there is a severe lack of academic effort and commitment in the field of CI.

Secondly, it is evident from literature available and this research that there is a huge lack of academic work. The problems facing European CI managers, which are identified in this research, could be overcome if CI managers had a stronger academic support either through a specific degree programme or through extensive research, which would lead to clear and

practical guidelines, which would provide a greater understanding of the many aspects surrounding CI. One only has to look at the general success of CI in America compared to Europe. This could be due to the fact that the majority of literature available on the subject has been generated in America and subsequent case studies have only concerned American companies. Moreover, many CI managers in America have the choice of many undergraduate and graduate degrees such as MSc Competitive Intelligence or MBA in CI. This is in stark contrast to most European business schools that usually fail to address the importance of CI in today's business environment. Of those universities who do mention CI, the extent of information given to students is very limited and often only accounts for a small percentage of a module. Therefore, massive academic efforts are required in Europe in order to improve the current status of CI and more importantly produce more knowledgeable CI managers in the future. This could also be achieved by the existence of a unified academic body, which could help to direct and improve the focus of future academic work in this field.

Another barrier to CI progress in Europe is the lack of case studies available concerning European companies and in particular the UK. This means that companies are not able to learn from other companies' practical experiences in CI thus development is being held back. A reason why companies do not share their experiences is the fact that CI is a highly confidential subject. This issue with confidentiality is a major barrier to companies learning from each other and until they willingly participate in addressing their experiences, CI will always remain theoretical. A suggestion, which could help to overcome this problem, is to set up a regulatory body, which could establish the boundaries of confidentiality. This would lead to the successful exchange of experiences, which could be turned into knowledge without compromising their competitive position.

7.2.2 The contribution of CI activities to MSF process

Companies in business have now moved away from just producing and selling their goods and services (the production and selling concepts), to marketing, which is based on a real plan; a strategy.

Marketing strategies are the means by which the company's marketing objectives will be achieved (McDonald, 1996). The main aim of marketing strategy formulation (MSF) is to establish, build, defend and maintain competitive advantage. The development of marketing strategy requires both extensive analysis of internal and external environments and a mixture of useful intelligence. It also requires managers to deal with issues that involve a high degree of uncertainty and vagueness (Brownlie and Spender, 1995). Therefore, marketing strategy formulation needs a great deal of intelligence. However many respondents in this research indicated that they understood the importance, benefits and need for CI in the MSF process. The main problems were in 'how' to integrate CI to MSF.

Although there is an extensive body of literature on strategic marketing planning and MSF, there is still a lack of a suitable framework, which can provide the basis for integrating CI into MSF. Marketing strategy formulation can be seen as a part of the whole process of strategic marketing planning. A suitable framework for integrating CI into MSF should aim to support the main aspects of the main stages of marketing strategy formulation.

It is important to take into consideration that the application of this framework depends to a large extent on the size and nature of the company. The use of the framework also relies on individual (CI and marketing) managers' experience, knowledge and skills in integrating CI into MSF. In practice, managers do not have to follow the whole step-by-step process and apply every strategic analysis model. They may use the process as general guidance or choose only certain steps and certain models where applicable.

Table 7.1: ***The Role of Competitive Intelligence (CI) in Marketing Strategy Formulation (MSF)***

Marketing Strategy Formulation (MSF)	The Role of Competitive Intelligence (CI) in Marketing Strategy Formulation (MSF)		
	The Regression Analysis indicates that, CI Contribute to each stage of MSF by:	The Factor analysis and Regression analysis indicates the intelligence required at this stage was obtained mainly from:	Other factors influencing increased use of CI:
Stage One: Setting Marketing Objectives	• Providing useful intelligence, which helps to set achievable, marketing objectives.	• Commercial Partners. • Public Sources.	• Companies with turnover of 251m-500m. • Companies with less than 100 employees. • Fast moving industries.
Stage Two: Strategic Marketing Analysis (SMA)	• Using CI techniques can inform and support marketing analysis.	• Commercial Partners. • Private Sources. • External Informants.	• Companies with less than 100 employees. • Fast moving industries. • Companies with turnover of > 100m (negative influence).
Stage Three: Strategic Decision Making (SDM)\	• Up to date intelligence regarding business environment helps managers to make their decision.	• Commercial Partners. • Private Sources. • External Informants.	• Companies with less than 100 employees. • Fast moving industries. • Companies with turnover of > 100m (negative influence).
Stage Four: Implementation & Control of Marketing Strategy (IMS)	• Checking the validity of the strategy. • Provides feedback to enable adjustments to be made.	• External Informants. • Commercial Partners.	• Companies with less than 100 employees. • Fast moving industries. • Companies with turnover of > 100m (negative influence).

The statistical result of regression analysis of the relationship between CI and MSF indicated that there is a significant relationship between MSF and the variables: "companies with Less than 100 employees", "CI contribute to Strategic Marketing Analysis (SMA) by: Using CI techniques can inform and support marketing analysis", "CI contribute to Implementation Marketing Strategy (IMS) by: checking the validity of the strategy", "CI contribute to Implementation Marketing Strategy (IMS) by: Provides feedback to enable adjustments to be made", "Companies in fast moving industries", "CI contribute to Setting Marketing Objective (SMO) by: Providing useful intelligence, which helps to set achievable, marketing objectives". The analysis also indicated that companies with turnover less than 100m are more likely to have a negative relationship (for more information, refer to chapter six, 6.4.3).

In addition, the statistical result of factor analysis showed that, although there was a long list of sources for intelligence, the respondents perceived them to be in four categories (Factors). Moreover, the statistical result of factor analysis and regression analysis of the sources used for CI and MSF, indicated that there is positive association between CI managers perceptions of the importance of the sources used for intelligence and MSF. The analysis also indicated that companies with turnover less than 100m more likely to have a negative relationship (for more information, refer to chapter six, 6.4.4). However, the association, between CI managers perception of the importance of the sources used for intelligence and MSF, will be discussed in the each stage of MSF below.

Before examining each stage of the MSF process and its relationship with CI, it is important to address the overall view among European CI managers as to what extent they believe CI contributes to MSF.

The finding of this study indicates that CI managers believed that CI is 'sometimes' to 'often' a key component of the MSF process. What is encouraging is that no one stated that 'never' is CI a key component of MSF (for more information, refer to Table 6.6). However, the majority of the respondents are not 'very often' using CI as a key component of the MSF. Therefore, the current relationship between CI and MSF is not fully integrated and more effort and

commitment is required, perhaps in the form of guidelines as to how CI can be integrated effectively into MSF.

In addition, the overall result of this study indicated that CI managers believed "sometimes" CI contributes to 'setting marketing objectives' and 'implementation and control'. They also believed that "often" CI contributes to 'strategic analysis' and 'strategic decision making' (for more information, refer to Table 6.5).

A worrying sign, which is evident from this result, is that, none of the overall respondents agreed that "very often" CI contributes to any stage of the MSF process. What increases this worry is that nearly 6% of respondents believed that CI "never" contributes to the 'implementation and control' stage of the MSF process. The implication of this result is that some CI managers do not understand the importance of using the intelligence derived from CI activities in the implementation and control stage, which results in the CI managers not being able to use the feedback (about the market performance of the chosen strategy) form the CI activity to enable adjustments to strategies to be made. Failure to obtain intelligence early and throughout the entire MSF process may result in companies obtaining intelligence at a late stage when it is impossible for them to make the necessary adjustments. This could result in the company losing its competitiveness.

In the following section, some guidelines are drawn as to how CI contributes to each stage of MSF.

Stage One: Setting Marketing Objectives

This is a key stage in formulating marketing strategy. Marketing objectives are what the company wants to achieve, concerning products and markets. They can be stated as a desired position at some designated point of time in the future (McDonald, 1996). Managers utilise their judgement and similar experience to set marketing objectives and examine the feasibility of the marketing objectives in terms of market share, profits, etc.

One worrying result from this study is that 7 respondents and 8 participants in the semi structure interview stated that they 'don't know' how CI contributes to 'setting marketing objectives'. The implication of this result is that these managers will be reluctant to use CI in this stage of MSF and if they do use it they will not be using it effectively to obtain maximum benefit.

The result of this study indicates that CI can be employed to provide intelligence and understanding of competitor's strategies and objectives and understanding of the external and internal environment. By understanding these factors, companies will have a greater knowledge of the factors, which shape the business environment that the company operates within. Therefore CI can provide useful intelligence that helps the company to set achievable marketing objectives and ensure that these objectives are developed with a reality perspective. In addition, the results of the factor analysis and regression analysis indicate that the intelligence required at this stage was obtained mainly from two sources namely public sources and commercial partners (for more information, refer to chapter six, 6.4.4 and 6.4.5).

Stage Two: Strategic Analysis

This is a structured approach to the collection and analysis of information and data on the internal and external environment. A marketing analysis would consider information on the business and economic climate, the market, the customers, competition, major competitors and the company's operating performance. The audit of the internal and external environment is an essential requirement to marketing strategy formulation.

One good result from this study was that none of the respondents believed that CI could 'never' be applied to the strategic analysis stage; therefore they all agreed that CI had some contribution to this stage. However, one worrying result from this study is that 5 respondents and 6 participants in the semi structure interview stated that they 'don't know' how CI contributes to 'strategic analysis'. The implications of this result are that if companies are not

using CI in the analysis required in the MSF, then they will fail to develop a successful strategy, which encompasses all aspects of the business environment.

CI at this stage focuses on decision structuring, information gathering, recovery and analysis. CI can be used to collect and process relevant marketing information and transform this information to meaningful intelligence. CI can be used to analyse market share, market trends, target markets and competitors' activities, by using CI techniques and CI analysis. Further, CI can offer intelligent advice on how to use the relevant marketing theoretical models properly. CI can be applied to identify new customers needs and requirements, and analyse market share. CI can also be employed to forecast market growth rate, market trends, competitors' reactions and activities, and market response.

The managers' (CI and marketing) major task at this stage is to clarify environmental and market variables, the company's operational variables, market structure and market trends, identify key market segments, customers' requirements, and identify fundamental problems.

Also, one of the most important methods that could be used in this stage is SWOT analysis. The purpose of conducting a SWOT analysis is to take advantage of the company strengths, minimise any weaknesses, take advantage of market opportunities as they arise and avoid, as far as possible, any threats. This stage summarises the internal strengths and weaknesses, analyses the external opportunities and threats, and identifies the key issues to be addressed, by product, by segment and overall (McDonald, 1992, 1996). CI can provide relevant marketing intelligence to aid SWOT analysis and can offer expert advice and incorporate managers' experience to conduct SWOT analysis.

Other strategic analysis methods and models which would be suitable for strategic analysis are, key success factors (as managers must ensure that strategic analysis covers the critical factors), competitor profiling, financial analysis, Porter's five-force model, win /lose analysis, war gaming / role playing and STEP analysis.

It is important to point out that any specific strategic analysis techniques or model use has its own advantages and limitations. A single strategic analysis technique is sometimes problematic to adapt to certain circumstances, and will only highlight a small part of the strategic arena. Therefore there is no one tool, which on its own is adequate in dealing with the complexity of strategic analysis. This supports what was stated previously that CI managers must be fully aware of all the techniques available and how each one can be used in an efficient to maximise the benefit of strategic analysis.

At this stage, managers may access: the company's competitive position; which capabilities to define as strength; which to define as a weakness compared with competitors; which marketing opportunities to take up; and which threats to avoid. In particular, managers should identify the sources of competitive advantage, such as low cost, or differentiation, relative to competitors (Porter, 1980).

At this stage, CI can also be applied to implement portfolio summary by using marketing expert knowledge and managers' experience. CI can assist with financial analysis by providing a visualisation in a summary form of the revenue and cost implications of current strategies. Techniques such as STEP analysis and Porter five forces model can be used to represent business strength factors, market attractiveness factors, competitive factors and the current product/market situation.

In addition, the results of the factor analysis and regression analysis indicate that the intelligence required at this stage was obtained mainly from three sources namely private sources, commercial partners and external informants (for more information, refer to chapter six, 6.4.4 and 6.4.5).

Stage Three: Strategic Decision Making

This stage makes assumptions and forecasts the future positions of products and markets. Relevant marketing analysis methods include forecasting techniques and downside risk assessment (McDonald, 1992, 1996). This is also the time in which the manager must make the strategy the company is going to follow.

One good result from this study was that none of the respondents believed that CI could 'never' be applied to the strategic decision making stage. They all agreed therefore that CI had some contribution to this stage. However, one worrying result from this study is that 2 respondents and 8 participants in the semi structure interview stated that they 'don't know' how CI contributes to 'strategic decision making'. The implications of this is that if they don't know how to use the intelligence gained through CI activities in the strategic decision making stage then the intelligence will be wasted as the main aim of having this intelligence is to help managers to make informed decisions that are based on up to date intelligence.

CI can be applied to provide field expert knowledge and incorporate managers' intuition and judgement on making assumptions about future markets, and thus offer useful intelligent advice and recommendations. CI can be utilised to predict strategic factor changes and the future position of products, markets and the competitive environment.

Managers' experience, personal beliefs and critical intelligence are essential in dealing with future uncertainty and ambiguity. At this stage, managers are encouraged to make assumptions using their good judgement, experience and intuitive thinking. Managers may moderate future profit potential, future market growth, competitors' activities, etc.

The end of this stage is the choice of marketing strategy. The chosen strategy should be built on competitive advantage and how it can be sustained. CI can provide relevant intelligence and recommendations to support this stage. CI analytical techniques can also be employed to conduct interactive "what-if" analysis. CI can be employed to offer expert advice, recommendations and guidelines to the selection of marketing strategy; and to help managers think strategically and analytically. A CI and a strategic analysis can work together to examine the planned strategies against unintentional biases.

Managers select a specific strategy through a process of judgement, good deal and strategic analysis in terms of market share, sales, costs, profits and so on. They must examine which alternative best connects the company's situation to external opportunities and threats.

Therefore CI can be used to provide up to date intelligence regarding the business environment and to access and evaluate likely competitor reaction and also to provide suggestions and recommendations, which help managers to make better decisions. However, it is important to point out that, CI is not about making the decision, it is aiding to it. CI managers provide the top management with the intelligence that will hopefully lead them to make the right decisions.

In addition, the results of the factor analysis and regression analysis indicate that the intelligence required at this stage was obtained mainly from three sources namely private sources, commercial partners and external informants (for more information, refer to chapter six, 6.4.4 and 6.4.5).

Stage Four: Implementation & Control

The decision as to what strategy to follow is not the final stage of CI contribution to MSF. Some managers can devise the best theoretical strategy, but if it cannot be implemented the strategy will be useless and all the time and resources spent on the chosen strategy will be wasted. Implementation of any strategy is one of the most vital stages to the success of the strategy. The implementation process is not something which is carried out and then forgotten about, it is essential that the strategy is continuously assessed and that any feedback is used to enable informed adjustments to be made. One CI manager from the semi structure interviews supported this view by saying "It is not just a case of saying 'this is our strategy, thank you very much' CI contribution to implementation and control should be an ongoing process which evolves continuously. Any strategy which just stands still will die".

One very worrying result is that 26 respondents and 6 participants in the semi structured interviews stated that they "don't know" how CI contributes to the implementation and control stage of MSF. Moreover, 13 of the respondents indicated that they believe CI 'never' contributes to the implementation and control stage of MSF. The implications of this are that many CI managers do not recognise this as being a vital stage and therefore they will not be

aware of the need to continuously monitor and adjust their strategies accordingly. The end result will be ineffective implementation of the strategy, which in turn will lead to ineffective performance.

At this stage, CI can be employed to provide intelligence about competitors' reaction to the implementation of the marketing strategy and also indicators from CI can be used as an early warning system to identify any problems in the implementation and highlight areas where adjustments need to be made. Therefore CI helps to check and assess the validity of the strategy.

In addition, the results of the factor analysis and regression analysis indicate that the intelligence required at this stage was obtained mainly from two sources namely external informants, and commercial partners (for more information, refer to chapter six, 6.4.4 and 6.4.5).

Therefore, in order to offer enhanced support to MSF process, the strengths of CI must be well integrated into each stage of this process. It is clear from the previous analysis that CI is not only useful but also crucial to the marketing strategy formulation. At each stage of the process, there exists a level that can only be fitted with intelligence obtained as a result of good CI. Tried and tested techniques and models can be maximally utilised and their benefits reaped if CI is taken as part and parcel of the overall strategy of the organisation.

7.3 Limitations

One major limitation of the present study is the size of the sample. Although efforts were made, the practical difficulties prevented the researcher to obtain the ideal size for each sub-sample (UK and Other European CI managers). This problem was unavoidable given the nature of the sample, as it was impossible to identify the entire CI population in Europe. This limitation caused certain constraints on the generalisation of the results from the analyses. In addition, the two samples (UK and Other European CI managers) did not match in their

demographic variables, hence caution should be taken in interpretation of the findings and replication with new data is needed.

As for the semi-structured interviews and the fellow up interviews, the major limitation was associated with the small coverage of the sample used and its potential impact on the external validity and the conclusion validity. As a result of this, it is important to address that caution should be taken in interpretation of the findings and replication with new data is needed.

Due to the diverse issues under the present study, the time and financial constraints prevented the research from further investigating some important causal relations between the key variables. For instance, the relationships between CI activities and MSF from marketing managers point view, is worth investigating but was purposely excluded from the present research. Therefore, the present investigation was limited to examination of the key issues of CI from European CI managers prospective and in isolation from marketing managers prospective.

One limitation of the study was the fact that most of the respondents were from large companies who already had prior knowledge of CI activities. This may have made some of the findings biased towards particular answers. The same questionnaire should be sent to a sample focusing on medium/small companies to see whether the results would differ significantly. If the results do differ then it is important to investigate why they differ and discuss the managerial implications on the basis of the result.

Finally, in order to keep the work within a reasonable scope of volume, the discussions of both theoretical and managerial implications were constrained within their own domain of theoretical and practical significance with only limited reference made to other related theories. In addition, the researcher is aware of the necessity and importance to draw the implications in the light of analysis and theories. Due to the space limit of the present work, it was decided to put these discussions in a separate report which as originally planned will be circulated to the participants of the survey and interviews and other business executives with interests in CI and MSF.

7.4 Future research directions

The present research was accomplished within the relationships between CI and MSF. This framework is build upon the understanding that the CI activities and working relationships with the MSF is instrumental in explaining part of the problems that manager's experience in integrating CI into MSF. With this framework, the present study identified the current status of CI in European companies and the way European CI managers use CI activities, most importantly, the key issues underling working relationships between CI activities and MSF. Given the large amount of work needed to carry out an overall examination of these issues, the present research was limited to examining the properties of these issues with each issue empirically investigated in isolation.

On the basis of the findings from the present work, further research is needed to replicate as well as extend the analyses of each key issues in greater depth. An extension of the present work and a preliminary framework for work in the next stage is, the marketing managers perceptions of the contribution of CI to the MSF process, and the working relationships between CI managers and marketing managers such as, whether CI managers are actively involved in the MSF or they just provide intelligence needed for such a process.

A further recommendation would be for the managerial implications and guidelines, which are addressed in this study to be examined in detail and to be put into practice in order to determine whether it is a viable and practical set of guidelines. Any issues, which would arise during the practical application of these guidelines, should be considered and the guidelines modified accordingly to make them more practical and clearer for CI managers on how to use them more effectively.

One further recommendation is that there should be more in depth UK and European case studies, which focus on those companies who are known to practice CI effectively. The aim of this would be that companies could benefit and learn from the good experiences. An extra step would be for the researcher to identify a company who is known to have good practises and actually spend a period of time in the CI department observing the way they practice their CI

activities. This would provide a more real life and in-depth experience, which will provide extensive knowledge on the subject. As a result any recommendations will have more practical implications.

An issue, which was evident from the study, was the lack of support of the senior manager for the CI activities in their company. The study could be further extended to include the perceptions of the senior manager concerning CI activities. This would give an insight into why senior managers often fail to understand and support the CI activities. This will explain why these problems arise and will provide information as to how the company will overcome these problems. The overall aim of this further study would be to improve the relationship between senior managers and the CI activities in the company. This in turn will improve the integration of CI into the company and help to establish it as being one of the vital functions in the organisation.

It is hoped that, by investigating these issues, valuable insights will be obtained to clarify some of the confusion in understanding CI issues and advance the theories of CI on MSF as a branch of knowledge complementary to a more comprehensive and cohesive family of theories of CI that is currently emerging. Finally, it is hoped that some of the researchers and academics will be sufficiently impressed by the prospects uncovered by this exploration to start further investigations that will refute or verify the findings.

Appendices

APPENDIX 1: Letter for interview

5 August 2001

"Title" "First Name" "Last Name
"Job Title"
"Address"
"City" "Postal Code"

Dear "First Name"

I am currently undertaking doctoral research on competitive intelligence (CI) and marketing strategy in European companies. The special feature of this study is that it examines the working relationship between CI and formulation of marketing strategy. Very little academic research seems to have been conducted in this area so I am expecting my findings to be illuminating.

The opportunity to interview people from a small selection of companies would deepen my research. You are one of the people I would very much like to interview. I appreciate that your time is precious but I would be extremely grateful if you can spare me some time for a discussion.

Each response will be treated as strictly confidential. The result will be aggregated in any presentation and publication. If you would like conformation of my authenticity please contact my director of studies Prof. Peter Baron at De Montfort University on 0116 257 7203.

If you have any questions please do not hesitate to contact me at the below address or e-mail abamar@dmu.ac.uk.

Thank you very much for your valuable opinion and support. I look forward to hearing from you.

Yours sincerely

Ahmad Badr
De Montfort University
The Gateway
Leicester
LE1 9BH
Tel: 0116 2551 551 (Ext: 6815)
0116 2548 599
077 6525 8005

APPENDIX 2: Interview questions

Name: **Date:**

Address: **Time:**

Tel:

1. How did you first become aware of CI?
2. Have you had any formal CI training?
3. How did / do you make people aware of CI?
4. How would your company's utilisation of Competitive Intelligence (CI) functions and how might that change in the future?
5. What are the main reason(s) why your company undertakes CI?
6. Do you use CI consultants? (WHY)
7. Is CI considered as a key business process in your organisation?
8. What sort of attitudes about CI would you say are true of seniors' managers in your company?
9. Do you see CI as more relevant for strategic or tactical decisions?
10. How does CI Contribute to setting marketing objectives?
11. How does CI Contribute to marketing strategy analysis?
12. How does CI Contribute to strategic decision making?
13. How does CI Contribute to implementation and control marketing strategy?
14. Do you consider CI to be a central component of the marketing strategy formulation?
15. What do you regards as the three most important ways in which your company uses CI?
16. What sort of tools/systems do you use to acquire, access, store and share CI?
17. What sort of techniques do you use to analyse CI?
18. How effective would you consider your company Competitive Intelligence activities to be? (WHY)
19. To measure the effectiveness of your company's Competitive Intelligence system, what would you use as performance measures?
20. What are the Key Success Factors in your industry & how does CI contribute to your firm's performance against these Key Success Factors?

APPENDIX 3: Codebook

Code	Description
	How does CI Contribute to setting marketing objectives?
CIPIHSMO	Providing useful intelligence, which helps to set achievable, marketing objectives.
CIHUBSMO	CI helps to achieve better understanding of the business environment.
CIIPDSMO	Providing information that can be a platform to develop marketing objectives.
CIERPSMO	Ensuring that marketing objectives are developed within a reality perspective.
CIUCSMO	Understanding competitors strategy and objectives.
CIHMDAMO	Help managers to develop sensible and achievable marketing objectives.
	How does CI Contribute to marketing analysis?
CILBPMA	CI techniques help to look at the big picture regarding business environment.
CIHBEMA	CI analysis helps in a better understanding of the business environment.
CITSMA	Using CI techniques can inform and support marketing analysis.
CICUMA	CI can provide clear understanding of the market and add value to the analysis.
CIICEMA	Providing intelligence on aspects of the competitive environment.
CIIOCMA	Helps managers to identify opportunities in the market and anticipate competitors' moves.
	How does CI Contribute to strategic decision-making?
CIIBSDM	Up to date intelligence regarding business environment helps managers to make their decisions.
CIFWASDM	Focuses on what to achieve in the market and how to go about it.
CIACRSDM	Assesses and evaluates likely competitors reaction.
CIISSDM	Provides intelligence and suggestion to the senior managers.
CIPFSDM	Predicts the future position of products and markets.
	How does CI Contribute to implementing & control of marketing strategy?
CIIWSIC	Indicators from CI are used as an early warning system to assess success or failure.
CIFMSPIC	Provides feedback about the marketing strategy performance in the market.
CIFADIC	Provides feedback to enable adjustments to be made.
CICVIC	Checking the validity of the strategy.
CIICRSIC	Provides information about competitors' reaction to the marketing strategy.

APPENDIX 4: Cover letter

12 March 2002

"Title" "First Name" "Last Name
"Job Title"
"Address"
"City" "Postal Code"

Dear "First Name"

This questionnaire forms part of a study we are making of competitive intelligence (CI) and marketing strategy in European companies. The special feature of this study is that it examines the working relationship between CI and the formulation of marketing strategy. Therefore the questionnaire is used to ask your opinion. Very little academic research seems to have been conducted in this area so I am expecting my findings to be illuminating.

Each response will be treated as strictly confidential. The result will be aggregated in any presentation and publication. A synopsis of the results will be made available on request to participants to provide insights into the role of CI in the formulation of marketing strategy. If you would like confirmation of my authenticity please contact one of my Directors of Studies Prof. Peter Baron or Sheila Wright at De Montfort University on 0044116 2551 551.

If you have any questions please do not hesitate to contact me at the University address or e-mail abamar@dmu.ac.uk.

Thank you very much for your valuable opinion and support. I look forward to hearing from you.

Yours sincerely,

Ahmad Badr (BSc, MSc)
Doctoral Researcher
Department of Marketing

APPENDIX 5: Questionnaire

Confidential **DMU: 0001**

Using Competitive Intelligence to Formulate and Implement Successful Marketing Strategies.

Thank you for taking time to complete this questionnaire. There are no right answers, Please feel free to answer anonymously. Your experience and opinion are vital to the success of this research.

Important note: the information in this questionnaire will be used for the purpose of compiling statistics. **No** information about individuals or companies will be used in the published results.

Q 1 In your company what do you call the activities of gathering and analysing information about your competitors? [Tick the most commonly used description]

- Competitive Intelligence ☐
- Competitor Intelligence ☐
- Strategy / Planning ☐
- Marketing / Sales ☐
- Knowledge Management ☐
- Marketing Research ☐
- Business Intelligence ☐
- Others (please state) ☐_____

NB: If Competitive Intelligence (CI) is not the description used in your firm then please respond to the remaining questions as if it was.

Q 2 Select the statement that best describes your company's current status of its Competitive Intelligence (CI) function and how might that change in the future.

	Now	Planned
• One part-time staff member assigned to conduct intelligence	☐	☐
• One full-time staff member assigned to conduct intelligence	☐	☐
• A few staff members conduct intelligence	☐	☐
• A separate competitive intelligence department	☐	☐
• Intelligence function is integrated throughout the organisation	☐	☐
• As a part of strategic planning department	☐	☐
• As a part of marketing department	☐	☐
• As a part of IT department	☐	☐
• Other: _____	☐	☐

Q 3 What are the main reason(s) why your company undertakes CI? [Please tick as many as are relevant]

- Awareness ☐
- Benchmarking ☐
- Improve sales ☐
- Help strategic planning process ☐
- Develop new products ☐
- Develop new marketing strategies & tactics ☐
- Identify new customer requirements ☐
- Others (please state) _____

Q 4 Which of the following attitudes about CI would you say are true of senior managers in your company?

	Untrue	Undecided	True	Don't Know
• CI is an essential component of marketing strategy formulation	☐	☐	☐	☐
• CI is an essential input to strategic decision making	☐	☐	☐	☐
• CI contributes only marginally to strategic decision making	☐	☐	☐	☐
• CI is an essential input to tactical decision making	☐	☐	☐	☐
• CI contributes only marginally to tactical decision making	☐	☐	☐	☐
• CI crosses the boundaries of acceptable business behaviour	☐	☐	☐	☐
• CI makes little measurable contribution	☐	☐	☐	☐
• Effort put into CI is worth the return	☐	☐	☐	☐
• CI is a professional discipline in its own right	☐	☐	☐	☐
• CI is best handled by front-line managers	☐	☐	☐	☐
• CI is an ethical and above-board activity	☐	☐	☐	☐

Q 5 Which of the following sources are used for CI?

		Never	Rarely	Sometimes	Often	Very often
1.	Customers	☐	☐	☐	☐	☐
2.	Suppliers and/or distributors	☐	☐	☐	☐	☐
3.	Consultants, bankers, lawyers, etc.	☐	☐	☐	☐	☐
4.	Social contacts	☐	☐	☐	☐	☐
5.	Databases	☐	☐	☐	☐	☐
6.	Debriefing of new staff previously working for competitors	☐	☐	☐	☐	☐
7.	Agencies	☐	☐	☐	☐	☐
8.	Trade publications, catalogues, etc.	☐	☐	☐	☐	☐
9.	Business periodicals	☐	☐	☐	☐	☐
10.	Newspapers	☐	☐	☐	☐	☐
11.	Government publications	☐	☐	☐	☐	☐
12.	Books	☐	☐	☐	☐	☐
13.	Trade shows conferences, etc.	☐	☐	☐	☐	☐
14.	Academic journals (e.g. Harvard Business Review)	☐	☐	☐	☐	☐
15.	Information services	☐	☐	☐	☐	☐

16.	Professional associations	☐	☐	☐	☐	☐
17.	Newsletters, memoranda	☐	☐	☐	☐	☐
18.	Internal reports (e.g. salesperson's reports)	☐	☐	☐	☐	☐
19.	Other: _____					

Q 6 Identify the different topics on which your company currently receives CI:

☐ Competitor activities
☐ Customer or supplier activities
☐ Changing Market or Industry structure
☐ Emerging Technology Initiatives
☐ Global Economic Conditions
☐ Regulatory Climate
☐ Political Climate
Other: _____
_____

Q 7 Which of the following tools/systems do you use to acquire, access, store and share CI?

	Never	Rarely	Sometimes	Often	Very often
• Databases	☐	☐	☐	☐	☐
• Secure intranet	☐	☐	☐	☐	☐
• Presentation software	☐	☐	☐	☐	☐
• Voice mail system	☐	☐	☐	☐	☐
• Fax machines, Electronic mail services	☐	☐	☐	☐	☐
• Group decision support systems	☐	☐	☐	☐	☐
• Dedicated CI process system	☐	☐	☐	☐	☐
• Other (please state)_____					

Q 8 Which of the following techniques do you use to analyse CI?

	Never	Rarely	Sometimes	Often	Very often
• SWOT analysis	☐	☐	☐	☐	☐
• Key Success Factors	☐	☐	☐	☐	☐
• Competitor profiling	☐	☐	☐	☐	☐
• Financial analysis	☐	☐	☐	☐	☐
• Win/lose analysis	☐	☐	☐	☐	☐
• STEP analysis	☐	☐	☐	☐	☐
• War gaming / role playing	☐	☐	☐	☐	☐
• Other (please state)_____					

Q 9 To measure the effectiveness of your company's CI activities, what would you use as performance measures:-

☐ Actions taken
☐ Financial goals met
☐ Market share improvements
☐ Leads generated
☐ New products developed
Other: _____

Q10 To what extent does CI contribute to marketing strategy formulation process?

	Never	Rarely	Sometimes	Often	Very often
• Setting Marketing Objectives	☐	☐	☐	☐	☐
• Strategic Analysis	☐	☐	☐	☐	☐
• Strategic Decision Making	☐	☐	☐	☐	☐
• Implementation and Control	☐	☐	☐	☐	☐

Q 11 How does CI Contribute to setting marketing objectives? [Tick only those which are relevant].

☐ Providing useful intelligence, which helps to set achievable, marketing objectives.
☐ CI helps to achieve better understanding of the business environment.
☐ Providing information that can be a platform to develop marketing objectives.
☐ Ensuring that marketing objectives are developed within a reality perspective.
☐ Understanding competitors strategy and objectives.
☐ Help managers to develop sensible and achievable marketing objectives.
☐ Do not know.
Other: _____

Q 12 How does CI Contribute to marketing analysis? [Tick only those which are relevant].

☐ CI techniques help to look at the big picture regarding business environment.
☐ CI analysis helps in a better understanding of the business environment.
☐ Using CI techniques can inform and support marketing analysis.
☐ CI can provide clear understanding of the market and add value to the analysis.
☐ Providing intelligence on aspects of the competitive environment.
☐ Helps managers to identify opportunities in the market and anticipate competitors' moves.
☐ Do not know.
Other: _____

Q 13 How does CI Contribute to strategic decision-making? [Tick only those which are relevant].

☐ Up to date intelligence regarding business environment helps managers to make their decisions.
☐ Focuses on what to achieve in the market and how to go about it.
☐ Assesses and evaluates likely competitors reaction.
☐ Provides intelligence and suggestion to the senior managers.
☐ Predicts the future position of products and markets.
☐ Do not know.
Other: _____

Q 14 How does CI Contribute to implementing a marketing strategy? [Tick only those which are relevant].

☐ Indicators from CI are used as an early warning system to assess success or failure.
☐ Provides feedback about the marketing strategy performance in the market.
☐ Provides feedback to enable adjustments to be made.
☐ Checking the validity of the strategy.
☐ Provides information about competitors' reaction to the marketing strategy.
☐ Do not know.
Other: _____

Q 15 In your company is CI a central component of the marketing strategy formulation?

☐ Never ☐ Rarely ☐ Sometimes ☐ Often ☐ Very often

Q 16 In your answer to Q15 is affirmative, can you give one or more general examples to support the answer given?

Q 17 What do you regard as the three most important ways in which your company uses CI?

NB: The remaining questions are simply for me to classify the size of your company and put your answers into context.

Q 18 Which category is closest to the equivalent amount of your company turnover?

☐ Less than £100m.
☐ £101m. - £250m.
☐ £251m. - £500m.
☐ £501m. - £1bn.
☐ More than £1bn.

Q 19 Number of employees in your company?

☐ Less than 100
☐ 101 - 250
☐ 251 - 500
☐ 501 - 1000
☐ More than 1000.

Q 20 What industry is your company in?[Tick all that apply; alternatively give your main SIC code]

☐ Banking/Financial
☐ Chemicals
☐ Communications
☐ Computers
☐ Computers Services
☐ Educational Services
☐ Energy
☐ Food Manufacturing
☐ Government
☐ Health Care
☐ Industrial Products
☐ Information
☐ Insurance
☐ Pharmaceuticals
☐ Public Utilities
☐ Consumer Products
☐ Telecommunications
☐ Textiles
☐ Transportation/Automotive
Other: _____

Thank you for completing this questionnaire. If you would be willing to take part in a 10-minute telephone interview at a convenient time to follow up some of your answers, please tick box.

☐ Yes, I would be willing to take part in a 10-minute telephone interview.
☐ Yes, I would like a free copy of the report's executive summary.

Name: _____
Address: _____
_____
_____
_____

☐ Yes, I would be interested in benchmarking my company against the questionnaire database.

PLEASE RETURN QUESTIONNAIRE TO: Ahmad BADR, De Montfort University, Department of Marketing, The Gateway, Leicester, LE1 9BH; UK. **Tel: 0116 2551 551 (Ext.: 6815) / 077 6525 8005**
OR FAX BACK TO: +44 (0) 0116 2548599

Thank you very much for your participation.

APPENDIX 6: Record Book

No.	Responses Names & Addresses	Sources of Information	First Request 12 March 02		Second Request 10 Apr. 02		Third Request 8 May 02	
			Quest. No.	Response	Quest. No.	Response	Quest. No.	Response
1.	Ahmad Badr De Montfort University The Gateway Leicester, LE1 9BH Tel: 0116 2551 5511 E-mail: abamar@dmu.ac.uk	European Conference: London: 25–27 October 2000	001	**No**	305	**No**	492	**Yes**
2.	Ahmad Badr De Montfort University The Gateway Leicester, LE1 9BH Tel: 0116 2551 5511 E-mail: abamar@dmu.ac.uk	SCIP Directory	113	**No**	359	**Yes**		
3.	Ahmad Badr De Montfort University The Gateway Leicester, LE1 9BH Tel: 0116 2551 5511 E-mail: abamar@dmu.ac.uk	European Conference: Munich: 24 – 26 October 2001	304	**Yes**				

APPENDIX 7: First Reminder

10 April 2002

"Title" "First Name" "Last Name
"Job Title"
"Address"
"City" "Postal Code"

Dear "First Name"

I sent a questionnaire to you on 12 of March 2002, which is part of a study I am carrying out on competitive intelligence (CI) and marketing strategy in European companies. I hope you will not mind me sending you reminder together with another copy of the questionnaire. I will soon be processing the questionnaires I have received and I would like to give you the opportunity to take part, as your opinion would be greatly beneficial to my study. The special feature of this study is that it examines the working relationship between CI and the formulation of marketing strategy. Very little academic research seems to have been conducted in this area so I am expecting my findings to be illuminating.

Each response will be treated as strictly confidential. The result will be aggregated in any presentation and publication. A synopsis of the results will be made available on request to participants to provide insights into the role of CI in the formulation of marketing strategy. If you would like confirmation of my authenticity please contact one of my Directors of Studies Prof. Peter Baron or Sheila Wright at De Montfort University on 0116 2551 551.

If you have any questions please do not hesitate to contact me at the University address or e-mail abamar@dmu.ac.uk.

Thank you very much for your valuable opinion and support. I look forward to hearing from you.

Yours sincerely,

Ahmad Badr (BSc, MSc)
Doctoral Researcher
Department of Marketing

APPENDIX 8: Second Reminder

8 May 2002

"Title" "First Name" "Last Name
"Job Title"
"Address"
"City" "Postal Code"

Dear "First Name"

I sent a questionnaire to you on 12 of March and 10 of April 2002, which is part of a study I am carrying out on competitive intelligence (CI) and marketing strategy in European companies. I hope you will not mind me sending you second reminder together with another copy of the questionnaire. I will soon be processing the questionnaires I have received and I would like to give you the opportunity to take part, as your opinion would be greatly beneficial to my study. The special feature of this study is that it examines the working relationship between CI and the formulation of marketing strategy. Very little academic research seems to have been conducted in this area so I am expecting my findings to be illuminating.

Each response will be treated as strictly confidential. The result will be aggregated in any presentation and publication. A synopsis of the results will be made available on request to participants to provide insights into the role of CI in the formulation of marketing strategy. If you would like confirmation of my authenticity please contact one of my Directors of Studies Prof. Peter Baron or Sheila Wright at De Montfort University on 0116 2551 551.

If you have any questions please do not hesitate to contact me at the University address or e-mail abamar@dmu.ac.uk.

Thank you very much for your valuable opinion and support. I look forward to hearing from you.

Yours sincerely,

Ahmad Badr (BSc, MSc)
Doctoral Researcher
Department of Marketing

APPENDIX 9: Follow up Interview

1. In your answer to Q15 you stated that XXX CI is a central component of the marketing strategy formulation; can you explain why you have this view?

2. Regarding your answer to Q10, do you believe that the marketing staff would have the same opinion and why?

3. In setting marketing objectives, are the CI staff in your company actively involved in the process of setting marketing objectives or do they just provide intelligence to marketing staff.

4. Regarding strategic analysis, do CI and marketing staff carryout separate strategic analysis? If yes, how do they collaborate information and how do they decide on the final marketing analysis?

5. In strategic decision-making, do the CI staff in your company only provide the intelligence needed for strategic decision-making or are they actively involved in the decision-making process?

6. Do you think the marketing manager in your company would be willing to speak to me regarding CI and marketing strategy formulation, as it would help to support my research?

APPENDIX 10: Cross-tabulation

Table 1 Cross-tabulation by company size regarding the attitudes of the European senior managers about CI in their companies

Q4		Essential component of MSF	Essential input of SDM	Contributes marginally to SDM	Essential input of TDM	Contributes marginally to TDM	Cross the boundaries	Little measurable contribution	Efforts worth the return	Professional discipline	Best handled by front line managers	Ethical activity
< 100 m	**Untrue**	26.6 *.9*	00 *00*	12.1 *9.3*	7.7 *.4*	10.7 *4.8*	9.7 *5.7*	13.5 *6.2*	33.3 *.4*	13.6 *2.6*	10.8 *4.0*	20.0 *1.3*
	Undecided	5.3 *.9*	12.1 *1.8*	00 *00*	3.7 *.9*	12.5 *3.5*	11.8 *1.8*	7.9 *2.6*	3.8 *.9*	2.0 *.4*	7.5 *2.2*	9.1 *1.3*
	True	11.2 *8.8*	11.0 *8.8*	10.7 *1.3*	13.0 *7.9*	6.9 *.9*	16.7 *1.8*	15.8 *1.3*	12.2 *8.4*	14.7 *6.6*	11.4 *1.8*	9.2 *6.2*
	Don't know	00 *00*	00 *00*	00 *00*	13.6 *1.3*	9.7 *1.3*	8.6 *1.3*	3.6 *.4*	12.5 *.9*	6.7 *.9*	14.3 *2.6*	14.8 *1.8*
101 – 250 m	**Untrue**	00 *00*	00 *00*	8.0 *6.2*	00 *00*	12.6 *5.7*	6.0 *3.5*	12.5 *5.7*	66.7 *.9*	11.4 *2.2*	2.4 *.9*	00 *00*
	Undecided	15.8 *2.6*	21.2 *3.1*	9.5 *.9*	9.3 *2.2*	6.3 *1.8*	8.8 *1.3*	5.3 *1.8*	7.7 *1.8*	11.8 *2.6*	6.0 *1.8*	9.1 *1.3*
	True	8.4 *6.6*	7.7 *6.2*	21.4 *2.6*	12.3 *7.5*	10.3 *1.3*	20.8 *2.2*	10.5 *.9*	9.0 *6.2*	6.9 *3.1*	25.7 *4.0*	10.5 *7.0*
	Don't know	25.0 *.4*	25.0 *.4*	00 *00*	00 *00*	6.5 *.9*	17.1 *2.6*	10.7 *1.3*	12.5 *.9*	13.3 *1.8*	16.7 *3.1*	11.1 *1.3*
251 – 500 m	**Untrue**	00 *00*	00 *00*	7.5 *5.7*	00 *00*	10.7 *4.8*	8.2 *4.8*	9.6 *4.4*	00 *00*	4.5 *.9*	4.8 *1.8*	6.7 *.4*
	Undecided	5.3 *.9*	15.2 *2.2*	28.6 *2.6*	7.4 *1.8*	10.9 *3.1*	17.6 *2.6*	9.2 *3.1*	17.3 *4.0*	13.7 *3.1*	11.9 *3.5*	24.2 *3.5*
	True	9.6 *7.5*	8.3 *6.6*	3.6 *.4*	10.9 *6.6*	6.9 *.9*	00 *00*	00 *00*	6.4 *4.4*	8.8 *4.0*	11.4 *1.8*	5.9 *4.0*
	Don't know	25.0 *.4*	00 *00*	00 *00*	4.5 *.4*	00 *00*	8.6 *1.3*	10.7 *1.3*	6.3 *.4*	6.7 *.9*	9.5 *1.8*	7.4 *.9*
501 – 1 bn	**Untrue**	42.9 *1.3*	33.3 *1.3*	12.6 *9.7*	23.1 *1.3*	17.5 *7.9*	15.7 *9.3*	14.4 *6.6*	00 *00*	22.7 *4.4*	20.5 *7.5*	26.7 *1.8*
	Undecided	15.8 *2.6*	18.2 *2.6*	19.0 *1.8*	11.1 *2.6*	12.5 *3.5*	14.7 *2.2*	13.2 *4.4*	19.2 *4.4*	21.6 *4.8*	14.9 *4.4*	6.1 *.9*
	True	12.9 *10.1*	11.6 *9.3*	17.9 *2.2*	15.2 *9.3*	6.9 *.9*	12.5 *1.3*	15.8 *1.3*	12.8 *8.8*	9.8 *4.4*	2.9 *.4*	17.1 *11.5*

	Don't know	00 *00*	50.0 *.9*	25.0 *.4*	9.1 *.9*	12.9 *1.8*	8.6 *1.3*	14.3 *1.8*	12.5 *.9*	3.3 *.4*	9.5 *1.8*	00 *00*
< 1 bn	**Untrue**	28.6 *.9*	66.7 *2.6*	59.8 *45.8*	69.2 *4.0*	48.5 *22.0*	60.4 *35.7*	50.0 *22.9*	00 *00*	47.7 *9.3*	61.4 *22.5*	46.7 *3.1*
	Undecided	57.9 *9.7*	33.3 *4.8*	42.9 *4.0*	68.5 *16.3*	57.8 *16.3*	47.1 *7.0*	64.5 *21.6*	51.9 *11.9*	51.0 *11.5*	59.7 *17.6*	51.5 *7.5*
	True	57.9 45.4	61.3 *48.9*	46.4 *5.7*	48.6 *29.5*	69.0 *8.8*	50.0 *5.3*	57.9 *4.8*	59.6 *41.0*	59.8 *26.9*	48.6 *7.5*	57.2 *38.3*
	Don't know	50.0 *.9*	25.0 *.4*	75.0 *1.3*	72.7 *7.0*	71.0 *9.7*	57.1 *8.8*	60.7 *7.5*	56.3 *4.0*	70.0 *9.3*	50.0 *9.3*	66.7 *7.9*
TOTAL	**Untrue**	100.0 *3.1*	100.0 *4.0*	100.0 *76.7*	100.0 *5.7*	100.0 *45.4*	100.0 *59.0*	100.0 *45.8*	100.0 *1.3*	100.0 *19.4*	100.0 *36.6*	100.0 *6.6*
	Undecided	100.0 *16.7*	100.0 *14.5*	100.0 *9.3*	100.0 *23.8*	100.0 *28.2*	100.0 *15.0*	100.0 *33.5*	100.0 *22.9*	100.0 *22.5*	100.0 *29.5*	100.0 *14.5*
	True	100.0 *78.4*	100.0 *79.7*	100.0 *12.3*	100.0 *60.8*	100.0 *12.8*	100.0 *10.6*	100.0 *8.4*	100.0 *68.7*	100.0 *44.9*	100.0 *15.4*	100.0 *67.0*
	Don't know	100.0 *1.8*	100.0 *1.8*	100.0 *1.8*	100.0 *9.7*	100.0 *13.7*	100.0 *15.4*	100.0 *12.3*	100.0 *7.0*	100.0 *13.2*	100.0 *18.5*	100.0 *11.9*

APPENDIX 11: Industries Analysis

1. Chemicals Industry

Q5: Sources are used for CI:

The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the "Sources which are used for CI activities". Inspection of the statistics of Levene's test for equality of variances in Table 1.1 revealed that the observed significance levels were greater than 0.01 for all variables. However, significant differences were found at the 0.05 level between the two samples in the mean scores of three variables 'consultants, bankers, lawyers', 'Debriefing of new staff' and 'Books'. The nonparametric test indicated consistent results.

Inspection of Table 1.1 indicated that the mean scores of the Other European managers on the variables 'consultants, bankers, lawyers', and 'Debriefing of new staff' were higher than the mean scores of the UK managers. On the other hand, the mean scores of the UK managers on the variable 'Books' were higher than the mean scores of the Other European managers. The two groups mean scores on all other variables were not significantly different at the (0.10 level, 0.05 level, and 0.01 level). This result suggests that there is no significant difference between UK managers and Other European managers with regard to the sources they use for their CI activity, except three sources 'customers', 'consultants, bankers, lawyers' and 'government publications' were significant difference at 0.05 level (which is not very high).

In order to determine if the level of difference is significant with regard to "Sources which are used for CI activities" among all European managers, ANOVA test was carried out. Table 1.2 reports the statistics for testing level of significance for "Sources which are used for CI activities" among all European CI managers. Examination of the Table 1.2 revealed that the observed significance levels were greater than 0.01 for all the variables. Inspection of the ANOVA Table 1.2 also illustrates significant differences at the 0.10 level, in two variables, 'Agencies' and 'databases'.

Table 1.1 Independent samples test (Sources are used for CI) between Group UK and Other European

	< 1 = Never ……..…….. ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Customers	2.89	3.38	**3.18**	**1.05**	**.374**	**.665**
Suppliers / distributors	3.00	3.31	**3.18**	**.96**	**.545**	**.436**
Consultants, bankers, lawyers, etc.**	2.22	3.31	**2.86**	**.94**	**.019**	**.012**
Social contacts	3.00	3.00	**3.00**	**.76**	**1.000**	**.678**
Databases	4.44	4.08	**4.23**	**.81**	**.261**	**.422**
Debriefing of new staff**	2.11	3.15	**2.73**	**1.12**	**.040**	**.011**
Agencies	2.67	3.15	**2.95**	**1.29**	**.390**	**.432**
Trade publications, catalogues, etc.	3.56	4.08	**3.86**	**1.04**	**.343**	**.734**
Business periodicals	3.44	4.08	**3.82**	**1.14**	**.271**	**.434**
Newspapers	3.67	3.69	**3.68**	**1.04**	**.959**	**1.00**
Government publications	2.78	2.54	**2.64**	**1.00**	**.642**	**.971**
Books**	3.00	2.08	**2.45**	**1.01**	**.031**	**.039**
Trade shows conferences, etc.	3.00	3.46	**3.27**	**1.03**	**.348**	**.328**
Academic journals	3.00	2.92	**2.95**	**1.09**	**.887**	**.861**
Information services	3.33	3.77	**3.59**	**.91**	**.365**	**.286**
Professional associations	3.33	3.00	**3.14**	**.89**	**.464**	**.233**
Newsletters, memoranda	2.78	2.69	**2.73**	**.94**	**.853**	**.943**
Internal reports	3.22	2.92	**3.05**	**1.17**	**.603**	**.447**
Other	0.00	0.00	**0.00**	**0.00**	**0.00**	**0.00**

** Using a *t*-test and Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'consultants, bankers, lawyers', 'Debriefing of new staff' and 'Books', was significant at the 5% level.

Table 1.2, ANOVA Test for Q 5: 'the CI sources used' among all European managers

Agencies*	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	14.788	5	2.958	2.347	**.089**
Within Groups	20.417	16	1.260		
Total	**34.955**	**21**			
Databases*	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	5.891	5	1.178	2.365	**.087**
Within Groups	7.972	16	.498		
Total	**13.864**	**21**			

* Significant at the 10% level.

This result suggests that there is no significant difference among all European managers with regard to the sources they use for their CI activity, except two sources 'Agencies', and

'Databases' were significant difference at 0.10 level (which is not very high). Therefore, the hypothesis H2 was not rejected with regard to the other variables.

Q7 Tools/systems that used to acquire, access, store and share CI

The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the "tools/systems which used to acquire, access, store and share CI". The independent *t*-test was conducted to identify whether 'UK' managers and 'Other European managers have different opinion to the "tools/systems which used to acquire, access, store and share CI". The results of the *t*-test are provided in Table 1.3 (result from the nonparametric test are also included for cross-validation). Inspection of the statistics of Levene's test for equality of variances revealed that the observed significance levels were greater than 0.10 for the mean differences of all the variables between the two groups, which are consistent with the nonparametric test results. However, significant differences were found at the 0.05 level between the two samples in the mean scores with respect to 'Database'. Although, significant differences were found at the 0.10 level between the two samples in the mean scores with respect to 'Fax machines, Electronic mail services'.

This result suggests that UK managers would not perceive significantly different levels of the "tools/systems which used to acquire, access, store and share CI" as compared with Other European managers, except two variables 'Database' was significant difference 0.05 level and 'Fax machines, Electronic mail services' was significant difference 0.10 level (which is not very high). On the other hand, the mean scores of the UK managers on the variable 'Database' and 'Fax machines, Electronic mail services' were higher than the mean scores of the Other European managers.

Table 1.3 Independent samples test (tools/systems which used to acquire, access, store and share CI) between Group UK and Other European:

	< 1 = Never ....5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Databases**	4.56	3.85	**4.14**	**.77**	**.021**	**.038**
Secure intranet	3.89	3.69	**3.77**	**.61**	**.514**	**.566**
Presentation software	2.22	2.92	**2.64**	**1.05**	**.123**	**.136**
Voice mail system	2.56	3.08	**2.86**	**1.08**	**.321**	**.208**
Fax machines, Electronic mail services*	4.00	3.00	**3.41**	**1.22**	**.057**	**.056**
Group decision support systems	2.11	2.77	**2.50**	**1.01**	**.150**	**.137**
Dedicated CI process system	2.22	2.31	**2.27**	**.94**	**.858**	**.640**
Other	0.00	0.00	**0.00**	**0.00**	**0.00**	**0.00**

*Using a *t*-test and a Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Fax machines, Electronic mail services', was significant at the 10% level.

** Using a *t*-test and Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Databases', was significant at the 5% level.

In order to determine if the level of difference is significant with regard to "tools/systems which used to acquire, access, store and share CI" among all European managers, ANOVA test was carried out. Table 1.4 reports the statistics for testing level of significance for "tools/systems which used to acquire, access, store and share CI" among all European CI managers. Inspection of the ANOVA Table 4 illustrates significant differences at the 0.01 level, in one variable, 'Databases'. Moreover, significant differences were found at the 0.10 level in one variable 'Fax machines, Electronic mail services'.

This result suggests that all European managers would not perceive significantly different levels of the tools/systems which used to acquire, access, store and share CI, except two variables 'Database' and ' Fax machine, E-mail services' were significant difference at 0.01 level and 0.10 level (which is not very high). These variables are the same to those found to be significant in the *t*-test. This result illustrates that some countries have a different level of CI knowledge and various tools, systems that they can use. In some cases the CI manager may have the necessary knowledge to use certain tools and systems but he / she may be restricted by the tools and systems provided by the company. Therefore, this could have affected their

answer to this question. Again the sizes of the company will determine which tools or systems they use depending upon the environment in which they operate. For examples, small companies with limited resources will use different tools / systems than bigger companies in the same industry.

Table 1.4, ANOVA Test for Q 7: (tools/systems which used to acquire, access, store and share CI)

Database* **	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	9.619	5	1.924	10.356	**.000**
Within Groups	2.972	16	.186		
Total	**12.591**	**21**			
Fax machines, email services*	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	13.152	5	2.630	2.317	**.092**
Within Groups	18.167	16	1.135		
Total	**31.318**	**21**			

* Significant at the 10% level.
*** Significant at the 1% level.

Q8 Techniques, which used to analyse CI

The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the "Techniques, which used to analyse CI". Inspection of the statistics of Levene's test for equality of variances in Table 3 revealed that the observed significance levels were greater than 0.01 for all variables.

As Table 1.5 indicates, the observed significance levels were less than 0.05 for the mean differences of the variable 'Financial analysis'. The nonparametric test indicated consistent results. On the other hand, the mean scores of the Other European managers on the variable 'Financial analysis' was higher than the mean scores of the UK managers.

The two groups mean scores on all other variables were not significantly different at the (0.10 level, 0.05 level, and 0.01 level), hence the hypothesis H2 was not rejected with regard to the other variables.

This result suggests that UK managers would not perceive significantly different levels of the techniques, which used to analyse CI as compared with Other European managers, except one variable 'Financial analysis' was significant difference at 0.05 level (which is not very high).

Table 1.5 Independent samples test for Question 8; 'techniques which used to analyse CI' between Group UK and Other European:

	< 1 = Never .....5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
SWOT analysis	3.56	3.77	**3.68**	**1.13**	**.707**	**.826**
Key Success Factors	3.33	3.92	**3.68**	**1.17**	**.295**	**.376**
Competitors profiling	3.67	4.08	**3.91**	**.68**	**.183**	**.159**
Financial analysis	3.22	4.00	**3.68**	**.78**	**.030**	**.014**
Win / lose analysis	2.11	2.92	**2.59**	**1.22**	**.141**	**.101**
STEP analysis	2.89	3.23	**3.09**	**1.27**	**.556**	**.560**
War gaming / role playing	2.11	2.31	**2.23**	**1.34**	**.739**	**.916**
Other	0.00	0.00	**0.00**	**0.00**	**0.00**	**0.00**

** Using a *t*-test and Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Financial analysis', was significant at the 5% level.

In order to determine if the level of difference is significant with regard to "techniques, which used to analyse CI" among all European managers, ANOVA test was carried out. Table 1.6 reports the statistics for testing level of significance for "techniques, which used to analyse CI" among all European CI managers. Examination of the Table 1.6 revealed that the observed significant differences were found at the 0.01 level in one variable 'War gaming / role-playing' among all European managers. This result suggests that all European managers would not perceive significantly different levels of the "techniques, which used to analyse CI", except one variable, 'War gaming / role-playing' was significant difference at 0.01 level (which is not very high). These variables are in complete contrast to one found to be significant in the *t*-test 'Financial analysis'.

As the ANOVA test examines the significant differences among all European managers this could explain why the 'War gaming / role-playing' variable appeared in the ANOVA table and not in the *t*-test table. This difference could be explained by the fact that different CI managers have a different level of knowledge, education and experience regarding CI technique.

Table 1.6, ANOVA Test for Q 8: (techniques which used to analyse CI)

War gaming / role playing***	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	22.558	5	4.512	4.716	**.008**
Within Groups	15.306	16	.957		
Total	**37.864**	**21**			

*** Significant at the 1% level.

Q10: To what extent does CI Contribute to marketing strategy formulation process:

The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the "to what extent does CI contribute to marketing strategy formulation process". The results of the *t*-test are providing in Table 1.7 (result from the nonparametric test are also included for cross-validation). Inspection of the statistics of Levene's test for equality of variances revealed that the observed significance levels were not significant for the mean differences of all the variables between the two groups, which are consistent with the nonparametric test results.

Table 1.7, Independent samples test for Question 10; 'to what extent does CI Contribute to MSF process' between Group UK and Other European:

	< 1 = Never ……..…… ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2 - tailed**
Setting Marketing Objectives	4.00	3.38	**3.64**	**.94**	**.120**	**.104**
Strategic Analysis	3.89	4.15	**4.05**	**.84**	**.497**	**.448**
Strategic Decision Making	4.00	3.92	**3.95**	**.72**	**.810**	**.938**
Implementation and Control	3.11	3.31	**3.23**	**.92**	**.634**	**.355**

Using a *t*-test and Mann-Whitney Test, there is no difference between UK and Other European countries.

This result suggests that UK managers would not perceive significantly different levels of the "to what extent does CI contribute to marketing strategy formulation process" as compared with Other European managers. On the other hand, the mean scores of the UK managers on the variables were higher than the mean scores of the Other European managers, except one variable 'Implementation and Control' were the mean scores Other European managers were higher than UK manager. Moreover, Inspection of the mean scores for 'UK' managers and

'Other European' managers indicates that both managers have the same opinion regarding to "To what extent does CI contribute to marketing strategy formulation process"; as the mean scores for both managers on the variables 'Setting marketing objectives' (4.00 = often), 'Strategic analysis' (4.00 = often), 'Strategic decision making' (4.00 = often), and 'Implementation and control' (3 = sometime) were nearly the same. Therefore, we can suggest that both managers believe that ***Sometimes*** CI contributes to the 'Implementation and Control of the marketing strategy'. However, both managers believe that ***Often*** CI contributes to 'Setting marketing objectives', 'strategic analysis' and 'Strategic decision making'.

In order to determine if the level of difference is significant with regard to "To what extent does CI contribute to marketing strategy formulation process" among all European managers, ANOVA test was carried out. Table 1.8 reports the statistics for testing level of significance for "To what extent does CI contribute to marketing strategy formulation process" among all European CI managers. Examination of the Table 1.8 revealed that the observed significance levels were greater than 0.01 for all the variables. Examination of the Table 1.8 revealed that the observed significant differences were found at the 0.10 level in a variable 'Implementation and Control of the marketing strategy', among all European managers. Moreover, significant differences were found at the 0.05 level in one variable 'Setting marketing manager'.

Table 1. 8, ANOVA Test for Q 10: To what extent does CI Contribute to marketing strategy formulation process

Implementation & Control* **	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	7.975	5	1.595	2.581	**.068**
Within Groups	9.889	16	.618		
Total	**17.864**	**21**			
Setting marketing objectives*	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	10.091	5	2.018	4.613	**.009**
Within Groups	7.000	16	.438		
Total	**17.091**	**21**			

* Significant at the 10% level.
*** Significant at the 1% level.

Q15: Is CI a central component of the marketing strategy formulation:

In same way as the previous sub-section, the independent *t*-test was performed on SPSS to examine differences in the variables mean scores of group 'UK managers' and 'Other European managers' with regard to "Is CI a central component of the marketing strategy formulation". Table 1.9 provides the test statistics, and Levene's test for equality of variances and statistics with unequal variance corrections are included since the two samples were of unequal sizes (nonparametric test statistics are included for cross-validation). The statistics of Levene's test for equality of variances in Table 1.9 revealed that the observed significance levels were greater than 0.01 for all the variables.

Examination of Table 1.9 reveals that the observed significance levels were less than 0.01 for the mean differences of all the variables between the two groups, which are consistent with the nonparametric test results.

This result suggests that UK managers would not perceive significantly different levels of the "Is CI a central component of the marketing strategy formulation" as compared with Other European managers. On the other hand, the mean scores of the UK managers on the variable "Is CI a central component of the marketing strategy formulation" was higher than the mean scores of the Other European managers. Therefore, we can suggest that both managers believe that ***Often*** CI is a central component of the marketing strategy formulation.

Table 1.9 Independent samples test for Question 15; 'Is CI a central component of the marketing strategy formulation' between Group UK and Other European:

	< 1 = Never ……..…… ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Is CI a central component of the MSF	3.78	3.77	**3.77**	**.61**	**.978**	**.848**

Using a *t*-test and Mann-Whitney Test, there is no difference between UK and Other European countries.

In order to determine if the level of difference is significant with regard to "Is CI a central component of the marketing strategy formulation" among all European managers, ANOVA test was carried out. Table 1.10 reports the statistics for testing level of significance for "Is CI

a central component of the marketing strategy formulation" among all European CI managers. Inspection of the ANOVA Table 1.10 also illustrates that there is no significant differences for the variable "Is CI a central component of the marketing strategy formulation" among all European managers.

Table 1.10, ANOVA Test for Q 15: Is CI a central component of the marketing strategy formulation

Is CI is a central component of the MSF	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	1.641	5	.328	.844	**.538**
Within Groups	6.222	16	.389		
Total	**7.864**	**21**			

This result suggests that all European managers would not perceive significantly different levels of "Is CI a central component of the marketing strategy formulation". Therefore, all European managers have the same opinion regarding the contribution of the CI into marketing strategy formulation; as all CI managers in chemicals industry believe that ***Often*** CI is a central component of the marketing strategy formulation.

2. Consumer Products

Q5: Sources are used for CI:

The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the "Sources which are used for CI activities". The independent *t*-test was conducted to identify whether 'UK' managers and 'Other European managers have different opinion to the sources which are used for CI activities. The results of the *t*-test are provide in Table 2.1 (result from the nonparametric test are also included for cross-validation). Inspection of the statistics of Levene's test for equality of variances revealed that the observed significance levels were greater than 0.01 for the mean differences of all the variables between the two groups, which are consistent with the nonparametric test results. The nonparametric test indicated consistent results.

Inspection of Table 2.1 indicated that the mean scores of the Other European managers in the consumer products industry on the most variables were higher than the mean scores of the UK managers. The two groups mean scores on all variables were not significantly different at the (0.10 level, 0.05 level, and 0.01 level), hence the hypothesis H2 was not rejected with regard to the question. This suggests that there is no significant difference between UK managers and Other European managers with regard to the sources they use for their CI activity.

In order to determine if the level of difference is significant with regard to "Sources which are used for CI activities" among all European managers, ANOVA test was carried out. The output reports the statistics for testing level of significance for "Sources which are used for CI activities" among all European CI managers. The output reports revealed that the observed significance levels were greater than 0.01 for the mean differences of all the variables between all European CI managers.

Table 2.1 Independent samples test (Sources are used for CI) between Group UK and Other European

	< 1 = Never ……..…….. ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Customers	2.88	3.21	**3.09**	**.97**	**.526**	**.799**
Suppliers / distributors	2.38	2.64	**2.55**	**.74**	**.427**	**.676**
Consultants, bankers, lawyers, etc.	3.38	3.29	**3.32**	**.57**	**.732**	**.580**
Social contacts	2.50	3.14	**2.91**	**1.02**	**.160**	**.164**
Databases	3.38	3.07	**3.18**	**1.26**	**.599**	**.463**
Debriefing of new staff	2.50	2.43	**2.45**	**.91**	**.882**	**.885**
Agencies	3.00	2.36	**2.59**	**.80**	**.109**	**.113**
Trade publications, catalogues, etc.	3.50	3.79	**3.68**	**.78**	**.422**	**.580**
Business periodicals	3.38	3.79	**3.64**	**.85**	**.349**	**.518**
Newspapers	3.75	3.86	**3.82**	**.80**	**.769**	**.812**
Government publications	3.13	3.14	**3.14**	**.77**	**.960**	**.910**
Books	2.25	2.43	**2.36**	**.90**	**.666**	**.462**
Trade shows conferences, etc.	3.00	3.43	**3.27**	**.98**	**.338**	**.317**
Academic journals	2.50	2.57	**2.55**	**.80**	**.846**	**.710**
Information services	3.50	3.36	**3.41**	**.96**	**.746**	**.490**
Professional associations	3.00	3.07	**3.05**	**.90**	**.888**	**.883**
Newsletters, memoranda	2.75	2.64	**2.68**	**1.04**	**.823**	**.693**
Internal reports	3.38	3.50	**3.45**	**1.26**	**.816**	**.574**
Other	0.00	0.00	**0.00**	**0.00**	**0.00**	**0.00**

Using a *t*-test and Mann-Whitney Test, there is no difference between UK and Other European countries.

This result suggests that all European managers would not perceive significantly different levels of the sources, which are used for CI activities, Hence the hypothesis H_2 was not rejected with regard to this question. This result illustrates that there is no different between all CI managers in Europe with regard to the different kinds of sources that they use.

Q7 Tools/systems that used to acquire, access, store and share CI

The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the "tools/systems which used to acquire, access, store and share CI".

Table 2.2 Independent samples test (tools/systems which used to acquire, access, store and share CI) between Group UK and Other European:

	< 1 = Never ……..…… ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Databases	3.88	3.79	**3.82**	**1.14**	**.865**	**.942**
Secure intranet	3.50	3.71	**3.64**	**1.18**	**.692**	**.500**
Presentation software	2.88	3.50	**3.27**	**.98**	**.157**	**.173**
Voice mail system	2.25	2.29	**2.27**	**1.12**	**.945**	**.720**
Fax machines, Electronic mail services	3.50	3.07	**3.23**	**1.11**	**.397**	**.378**
Group decision support systems	2.00	1.64	**1.77**	**.97**	**.471**	**.522**
Dedicated CI process system	1.69	1.86	**2.82**	**1.76**	**.724**	**.855**
Other	0.00	0.00	**0.00**	**0.00**	**0.00**	**0.00**

Using a *t*-test and Mann-Whitney Test, there is no difference between UK and Other European countries.

Table 2.3, ANOVA Test for Q 7: (tools/systems which used to acquire, access, store and share CI)

Variable		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Presentation software* **	Between Groups	14.289	7	2.041	4.704	**.007**
	Within Groups	6.075	14	.434		
	Total	**20.364**	**21**			

***Significant at the 1% level.

This result suggests that all European managers would not perceive significantly different levels of the tools/systems that used to acquire, access, store and share CI, except one variable 'Presentation software' were significant difference at 0.01 level (which is not very high). This result illustrates that some countries have a different level of CI knowledge and various tools, systems that they can use. In some cases the CI manager may have the necessary knowledge to use certain tools and techniques but he / she may be restricted by the tools and systems provided by the company. Therefore, this could have affected their answer to this question. Again the sizes of the company will determine which tools or systems they use depending upon the environment in which they operate. For examples, small companies with limited resources will use different tools / systems than bigger companies.

Q8 Techniques, which used to analyse CI

The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the "Techniques, which used to analyse CI". Inspection of the statistics of Levene's test for equality of variances in Table 3 revealed that the observed significance levels were greater than 0.01 for all variables.

As Table 2.4 indicates, the observed significance levels were less than 0.05 for the mean differences of the variables 'Financial analysis' and 'Win / lose analysis'. The nonparametric test indicated consistent results. On the other hand, the mean scores of the Other European managers on the variable 'Financial analysis' and 'Win / lose analysis' were higher than the mean scores of the UK managers.

Table 2.4 Independent samples test for Question 8; 'techniques which used to analyse CI' between Group UK and Other European:

	< 1 = Never ……..…… ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
SWOT analysis	4.13	3.79	**3.91**	**.68**	**.382**	**.325**
Key Success Factors	4.13	3.71	**3.86**	**.64**	**.152**	**.151**
Competitors profiling	4.25	4.29	**4.27**	**.55**	**.901**	**1.000**
Financial analysis*	3.63	4.14	**3.95**	**.58**	**.041**	**.042**
Win / lose analysis*	2.25	3.00	**2.73**	**.70**	**.012**	**.014**
STEP analysis	3.13	2.43	**2.68**	**1.04**	**.212**	**.301**
War gaming / role playing	2.00	2.00	**2.00**	**1.02**	**1.000**	**.886**
Other	0.00	0.00	**0.00**	**0.00**	**0.00**	**0.00**

*Using a *t*-test and a Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Win / lose analysis' and 'Financial analysis', were significant at the 5% level.

The two groups mean scores on all other variables were not significantly different at the (0.10 level, 0.05 level, and 0.01 level), hence the hypothesis H2 was not rejected with regard to the other variables.

This result suggests that UK managers would not perceive significantly different levels of the techniques, which used to analyse CI as compared with Other European managers, except two variables 'Financial analysis' and 'Won / lose analysis' were significant difference at 0.05 level (which is not very high).

In order to determine if the level of difference is significant with regard to "techniques, which used to analyse CI" among all European managers, ANOVA test was carried out. Table 2.5 reports the statistics for testing level of significance for "techniques, which used to analyse CI" among all European CI managers. Examination of the Table 2.5 revealed that the observed significant differences were found at the 0.05 level in two variables 'War-gaming / role-playing' and 'Win / lose analysis' among all European managers. This result suggests that all European managers would not perceive significantly different levels of the "techniques, which used to analyse CI", except two variable, 'War gaming / role-playing' and 'Win / lose analysis' were significant difference at 0.05 level (which is not very high). One of these variables are the same to one found to be significant in the *t*-test 'Win / lose analysis'.

As the ANOVA test examines the significant differences among all European managers this could explain why the 'War gaming / role-playing' variable appeared in the ANOVA table and not in the *t*-test table. This difference could be explained by the fact that different CI managers have a different level of knowledge, education and experience regarding CI technique.

Table 2.5, ANOVA Test for Q 8: (techniques which used to analyse CI):

Variable		Sum of Squares	df	Mean Square	F	Sig.
Win / lose analysis**	Between Groups	6.897	7	.985	3.979	**.013**
	Within Groups	3.467	14	.248		
	Total	**10.364**	**21**			
War gaming /role playing**	Between Groups	14.133	7	2.019	3.593	**.020**
	Within Groups	7.867	14	.562		
	Total	**22.000**	**21**			

**Significant at the 5% level.

Q10: To what extent does CI Contribute to marketing strategy formulation process:

The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the "to what extent does CI contribute to marketing strategy formulation process". The results of the *t*-test are providing in Table 2.6 (result from the nonparametric test are also included for cross-validation). Inspection of the statistics of Levene's test for equality of variances revealed that the observed significance

levels were not significant for the mean differences of all the variables between the two groups, which are consistent with the nonparametric test results.

Table 2.6, Independent samples test for Question 10; 'to what extent does CI Contribute to MSF process' between Group UK and Other European:

	< 1 = Never ....5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Setting Marketing Objectives	3.38	3.43	**3.41**	**.50**	**.817**	**.810**
Strategic Analysis	4.13	4.14	**4.14**	**.71**	**.956**	**.521**
Strategic Decision Making	4.13	3.79	**3.91**	**.68**	**.273**	**.289**
Implementation and Control	3.00	3.36	**3.23**	**.81**	**.333**	**.200**

Using a *t*-test and Mann-Whitney Test, there is no difference between UK and Other European countries.

This result suggests that UK managers would not perceive significantly different levels of the "to what extent does CI contribute to marketing strategy formulation process" as compared with Other European managers. On the other hand, the mean scores of the Other European managers on the variables were higher than the mean scores of the UK managers. Moreover, Inspection of the mean scores for 'UK' managers and 'Other European' managers indicates that both managers have the same opinion regarding to "To what extent does CI contribute to marketing strategy formulation process"; as the mean scores for both managers on the variables (nearly), 'Setting marketing objectives' (3.00 = sometimes), 'Strategic analysis' (4.00 = often), 'Strategic decision making' (4.00 = often), and 'Implementation and control' (3 = sometime) were nearly the same. Therefore, we can suggest that both managers believe that ***Sometimes*** CI contributes to the 'Implementation and Control of the marketing strategy'. However, both managers believe that ***Often*** CI contributes to 'Setting marketing objectives', 'Strategic analysis' and 'Strategic decision making'.

In order to determine if the level of difference is significant with regard to "To what extent does CI contribute to marketing strategy formulation process" among all European managers, ANOVA test was carried out. Table 2.7 reports the statistics for testing level of significance for "To what extent does CI contribute to marketing strategy formulation process" among all

European CI managers. Examination of the Table 2.7 revealed that the observed significance levels were greater than 0.10 for all the variables. Examination of the Table 2.7 revealed that there is no significant level of difference among all European managers.

Table 2.7, ANOVA Test for Q 10: To what extent does CI Contribute to marketing strategy formulation process:

Variable		Sum of Squares	df	Mean Square	F	Sig.
Setting marketing objectives	Between Groups	5.997	7	.857	1.525	**.237**
	Within Groups	7.867	14	.562		
	Total	**13.864**	**21**			
Strategic analysis	Between Groups	3.777	7	.540	1.250	**.341**
	Within Groups	6.042	14	.432		
	Total	**9.818**	**21**			
Setting decision making	Between Groups	1.077	7	.154	.508	**.814**
	Within Groups	4.242	14	.303		
	Total	**5.318**	**21**			
Implementation & Control	Between Groups	1.049	7	.150	.220	**.974**
	Within Groups	9.542	14	.682		
	Total	**10.591**	**21**			

Q15: Is CI a central component of the marketing strategy formulation:

In same way as the previous sub-section, the independent *t*-test was performed on SPSS to examine differences in the variables mean scores of group 'UK managers' and 'Other European managers' with regard to "Is CI a central component of the marketing strategy formulation". Table 2.8 provides the test statistics, and Levene's test for equality of variances and statistics with unequal variance corrections are included since the two samples were of unequal sizes (nonparametric test statistics are included for cross-validation). The statistics of Levene's test for equality of variances in Table 2.8 revealed that the observed significance levels were greater than 0.01 for all the variables.

This result suggests that UK managers would not perceive significantly different levels of the "Is CI a central component of the marketing strategy formulation" as compared with Other European managers. On the other hand, the mean scores of the UK managers on the variable

"Is CI a central component of the marketing strategy formulation" were higher than the mean scores of the Other European managers. Therefore, we can suggest that both managers believe that ***Sometimes*** CI is a central component of the marketing strategy formulation.

Table 2.8 Independent samples test for Question 15; 'Is CI a central component of the marketing strategy formulation' between Group UK and Other European:

	< 1 = Never .....5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Is CI a central component of the MSF	3.25	3.21	**3.25**	**.75**	**.918** **.915**	**.791**

Using a *t*-test and Mann-Whitney Test, there is no difference between UK and Other European countries.

In order to determine if the level of difference is significant with regard to "Is CI a central component of the marketing strategy formulation" among all European managers, ANOVA test was carried out. Table 2.9 reports the statistics for testing level of significance for "Is CI a central component of the marketing strategy formulation" among all European CI managers. Inspection of the ANOVA Table 2.9 also illustrates that there is significant differences at 0.01 levels for the variable "Is CI a central component of the marketing strategy formulation" among all European managers.

Table 2.9, ANOVA Test for Q 15: Is CI a central component of the marketing strategy formulation

Is CI is a central component of the MSF	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	8.364	7	1.195	4.779	**.006**
Within Groups	3.500	14	.250		
Total	**11.864**	**21**			

This result suggests that all European managers would perceive significantly different levels of "Is CI a central component of the marketing strategy formulation". Therefore, all European managers have the different opinion regarding the contribution of the CI into marketing strategy formulation; as all CI managers in Pharmaceuticals industry believe that *Sometime* CI is a central component of the marketing strategy formulation.

3. Industrial Products

Q5; Sources are used for CI:

The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the "Sources which are used for CI activities". The independent *t*-test was conducted to identify whether 'UK' managers and 'Other European managers have different opinion to the sources which are used for CI activities. The results of the *t*-test are provide in Table 3.1 (result from the nonparametric test are also included for cross-validation). Inspection of the statistics of Levene's test for equality of variances revealed that the observed significance levels were greater than 0.10 for the mean differences of all the variables between the two groups, which are consistent with the nonparametric test results. However, significant differences were found at the 0.10 level between the two samples in the mean scores with respect to 'Newspapers' and 'Books'. Moreover, significant differences were found at the 0.01 level between the two samples in the mean scores with respect to 'Trade shows, conferences, etc.'. The nonparametric test indicated consistent results.

Inspection of Table 3.1 indicated that the mean scores of the Other European managers in the industrial products industry on the variables 'Newspapers', 'Books' and Trade shows, conferences, etc.' were higher than the mean scores of the UK managers. The two groups mean scores on all other variables were not significantly different at the (0.10 level, 0.05 level, and 0.01 level), hence the hypothesis H2 was not rejected with regard to the other variables. This suggests that there is no significant difference between UK managers and Other European managers with regard to the sources they use for their CI activity, except three sources 'Newspapers', 'Books' and Trade shows, conferences, etc.' were significant difference at 0.10 level and 0.01 level (which is not very high).

In order to determine if the level of difference is significant with regard to "Sources which are used for CI activities" among all European managers, ANOVA test was carried out. Table 3.2 reports the statistics for testing level of significance for "Sources which are used for CI activities" among all European CI managers. Examination of the Table 3.2 illustrates

significant differences at the 0.10 level, in three variables, 'Customers', 'Debriefing of new staff' and 'Professional associations'. Also, significant differences were found at the 0.05 level in three variables, 'Academic journals', 'Agencies' and 'Information services'. Moreover, significant differences were found at the 0.01 level in one variable 'Trade shows conferences, etc.'.

Table 3.1 Independent samples test (Sources are used for CI) between Group UK and Other European

	< 1 = Never ……..…… ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Customers	3.43	3.31	**3.35**	**.57**	**.653**	**.702**
Suppliers / distributors	3.43	3.25	**3.30**	**.70**	**.664**	**.680**
Consultants, bankers, lawyers, etc.	2.86	2.69	**2.74**	**.75**	**.668**	**.430**
Social contacts	2.43	2.69	**2.61**	**.72**	**.442**	**.305**
Databases	3.14	2.94	**3.00**	**.95**	**.645**	**.599**
Debriefing of new staff	2.86	2.56	**2.65**	**.57**	**.337**	**.319**
Agencies	2.57	2.00	**2.17**	**.78**	**.106**	**.115**
Trade publications, catalogues, etc.	3.86	3.63	**3.70**	**1.02**	**.627**	**.597**
Business periodicals	3.57	3.88	**3.78**	**.74**	**.375**	**.247**
Newspapers***	2.86	3.69	**3.43**	**.99**	**.063**	**.074**
Government publications	3.29	3.00	**3.09**	**1.00**	**.599**	**.805**
Books***	1.86	2.63	**2.39**	**.89**	**.055**	**.051**
Trade shows conferences, etc.*	2.71	4.13	**3.70**	**.88**	**.001**	**.001**
Academic journals	2.57	2.69	**2.65**	**.78**	**.751**	**.741**
Information services	2.86	3.25	**3.13**	**1.14**	**.481**	**.404**
Professional associations	2.71	2.56	**2.61**	**.99**	**.761**	**.751**
Newsletters, memoranda	3.14	3.00	**3.04**	**.93**	**.798**	**.671**
Internal reports	3.43	3.25	**3.30**	**.82**	**.678**	**.796**
Other	0.00	0.00	**0.00**	**0.00**	**0.00**	**0.00**

*** Using a Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Newspapers' and 'Books', were significant at the 10% level.

*Using a *t*-test and Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Trade shows conferences, etc.', was significant at the 1% level.

This result suggests that all European managers would perceive significantly different levels of the sources which are used for CI activities, with seven variables Customers', 'Debriefing of new staff' and 'Professional associations' were significant difference at 0.10 level ; 'Academic journals', 'Agencies' and 'Information services' were significant difference at 0.05

level; 'Trade shows conferences, etc.' were significant difference at 0.01 level (which is not very high). Hence the hypothesis H2 was not rejected with regard to these variables. Moreover, these variables are in complete contrast to those found to be significant in the *t*-test except one variable Trade shows conferences, etc.'. This result illustrates that some countries have a different kinds of sources that they can use. In some cases the CI manager may have the necessary knowledge to use certain sources but he / she may be restricted by the sources provided by the company. Therefore, this could have affected their answer to this question. Again the sizes of the company will determine which sources they use depending upon the environment in which they operate. For examples, small companies with limited resources will use different sources than bigger companies. The type of sources used will depend on the companies' needs and their objectives.

Table 3.2, ANOVA Test for Q 5: 'the CI sources used' among all European managers

Variable		Sum of Squares	df	Mean Square	F	Sig.
Academic journals**	Between Groups	6.836	5	1.367	3.643	**.020**
	Within Groups	6.381	17	.375		
	Total	**13.217**	**22**			
Agencies**	Between Groups	6.923	5	1.385	3.689	**.019**
	Within Groups	6.381	17	.375		
	Total	**13.304**	**22**			
Customers*	Between Groups	3.128	5	.626	2.601	**.064**
	Within Groups	4.089	17	.241		
	Total	**7.217**	**22**			
Information services**	Between Groups	15.377	5	3.075	3.951	**.015**
	Within Groups	13.232	17	.778		
	Total	**28.609**	**22**			
Debriefing of new staff*	Between Groups	2.860	5	.572	2.232	**.098**
	Within Groups	4.357	17	.256		
	Total	**7.217**	**22**			
Professional associations*	Between Groups	9.175	5	1.835	2.535	**.069**
	Within Groups	12.304	17	.724		
	Total	**21.478**	**22**			
Trade shows conferences, etc.***	Between Groups	9.941	5	1.988	4.878	**.006**
	Within Groups	6.929	17	.408		
	Total	**16.870**	**22**			

* Significant at the 10% level.
** Significant at the 5% level.
***Significant at the 1% level.

Q7 Tools/systems that used to acquire, access, store and share CI

Table 3.3 reports the test statistics for testing level of significance for "tools/systems which used to acquire, access, store and share CI" between the UK and Other European CI managers. Examination of the statistics of Levene's test for variances in Table 1 revealed that the observed significance levels were greater than 0.01 for all the variables. However, significant differences were found at the 0.05 level between the two samples in the mean scores of one variable 'Fax machines, E-mail services'. Moreover, significant differences were found at the 0.10 level between the two samples in the mean scores with respect to 'Presentation software' and 'Dedicated CI process systems'. The nonparametric test indicated consistent results.

Table 3.3 Independent samples test (tools/systems which used to acquire, access, store and share CI) between Group UK and Other European:

	< 1 = Never ……..…… ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Databases	3.57	3.75	**3.70**	**1.06**	**.730**	**.739**
Secure intranet	3.57	3.69	**3.65**	**.71**	**.729**	**.722**
Presentation software*	3.57	2.50	**2.83**	**1.19**	**.059**	**.051**
Voice mail system	3.00	2.68	**2.57**	**.99**	**.331**	**.407**
Fax machines, Electronic mail services**	4.00	2.94	**3.26**	**1.01**	**.034**	**.032**
Group decision support systems	2.00	2.31	**2.22**	**.95**	**.481**	**.372**
Dedicated CI process system*	1.86	2.63	**2.39**	**.99**	**.086**	**.088**
Other	0.00	0.00	**0.00**	**0.00**	**0.00**	**0.00**

* Using a *t*-test and a Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Presentation software' and 'Dedicated CI process system', were significant at the 10% level.
** Using a *t*-test and a Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Fax machines, Electronic mail services', was significant at the 5% level.

Inspection of Table 3.3 indicated that the mean scores of the UK managers on the variables 'Presentation software' and Fax machines, E-mail services' were higher than the mean scores of the Other European managers. On the other hand, the mean scores of the Other European managers on the variable 'Dedicated CI process systems' was higher than the mean scores of the UK managers. The two groups mean scores on all other variables were not significantly different at the (0.10 level, 0.05 level, and 0.01 level), hence the hypothesis H2 was not

rejected with regard to the other variables. This suggests that there is no significant difference between UK managers and Other European managers with regard to the tools/systems which used to acquire, access, store and share CI, except three sources Presentation software', 'Dedicated CI process systems' and 'Fax machines, E-mail services' were significant difference at 0.10 level and 0.05 level (which is not very high).

In order to determine if the level of difference is significant with regard to "tools/systems which used to acquire, access, store and share CI" among all European managers, ANOVA test was carried out. Table 3.4 reports the statistics for testing level of significance for "tools/systems which used to acquire, access, store and share CI" among all European CI managers. Examination of the Table 3.4 revealed that the observed significant differences were found at the 0.01 level in one variable 'Presentation software' among all European managers. Moreover, Table 3.4 revealed that the observed significant differences were found at the 0.10 level in one variable 'Fax machines, Electronic mail services' among all European managers. This result suggests that all European managers would not perceive significantly different levels of the "tools/systems which used to acquire, access, store and share CI", except two variable, 'Presentation software' and 'Fax machines, Electronic mail services' were significant difference at 0.01 level and 0.10 level (which is not very high). These variables are the same to one found to be significant in the *t*-test.

As the ANOVA test examines the significant differences among all European managers this could explain why the 'Presentation software' and 'Fax machines, Electronic mail services' variables appeared in the ANOVA table and in the *t*-test table. This result could be explained by the fact that different CI managers have a different level of knowledge, skills, education and experience regarding CI tools/systems that they can use. Again the sizes of the company will determine which tools/systems they use depending upon the environment in which they operate. For examples, small companies with limited resources will use different tools/systems than bigger companies. The type of tools/systems used will depend on the companies' needs and their objectives.

Table 3.4, ANOVA Test for Q 7: (tools/systems which used to acquire, access, store and share CI)

Variable		Sum of Squares	df	Mean Square	F	Sig.
Fax, E-mail services**	Between Groups	10.393	5	2.079	2.935	**.043**
	Within Groups	12.042	17	.708		
	Total	**22.435**	**22**			
Presentation software***	Between Groups	19.215	5	3.843	5.404	**.004**
	Within Groups	12.089	17	.711		
	Total	**31.304**	**22**			

** Significant at the 5% level.
***Significant at the 1% level.

Q8 Techniques, which used to analyse CI

In same way as the previous sub-section, the independent *t*-test was performed on SPSS to examine differences in the variables mean scores of group 'UK managers' and 'Other European managers' with regard to "techniques, which used to analyse CI". Table 3.5 provides the test statistics, and Levene's test for equality of variances and statistics with unequal variance corrections are included since the two samples were of unequal sizes (nonparametric test statistics are included for cross-validation). The statistics of Levene's test for equality of variances in Table 3.5 revealed that the observed significance levels were greater than 0.01 for all the variables.

Examination of Table 3.5 reveals significant differences were found at the 0.05 level between the two samples in the mean scores with respect to 'SWOT analysis' and 'STEP analysis'. On the other hand, the mean scores of the UK managers on the variables 'SWOT analysis' and 'STEP analysis' were higher than the mean scores of the Other European managers.

This result suggests that UK managers would not perceive significantly different levels of the "techniques, which used to analyse CI" as compared with Other European managers, except two variables 'SWOT analysis' and 'STEP analysis' were significant difference at 0.05 level (which is not very high).

Table 3.5 Independent samples test for Question 8; 'techniques which used to analyse CI' between Group UK and Other European:

	< 1 = Never ……..…….. ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
SWOT analysis **	4.57	3.50	**3.83**	**.98**	**.012**	**.011**
Key Success Factors	4.14	3.75	**3.87**	**.87**	**.330**	**.190**
Competitors profiling	3.86	3.63	**3.70**	**.88**	**.571**	**.478**
Financial analysis	3.71	3.63	**3.65**	**.78**	**.829**	**.941**
Win / lose analysis	2.43	3.13	**2.91**	**1.00**	**.141**	**.137**
STEP analysis**	3.43	1.75	**2.26**	**1.32**	**.026**	**.013**
War gaming / role playing	2.14	1.50	**1.70**	**.88**	**.225**	**.226**
Other	0.00	0.00	**0.00**	**0.00**	**0.00**	**0.00**

** Using a *t*-test and Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'SWOT analysis' and STEP analysis', were significant at the 5% level.

In order to determine if the level of difference is significant with regard to "techniques, which used to analyse CI" among all European managers, ANOVA test was carried out. Table 3.6 reports the statistics for testing level of significance for techniques, which used to analyse CI among all European CI managers. Examination of the Table 3.6 revealed that the observed significance levels were greater than 0.01 for all the variables. Inspection of the ANOVA Table 3.6 also illustrates significant differences at the 0.05 level, in one variable, 'STEP analysis'. Moreover, significant differences were found at the 0.10 level in one variable 'SWOT analysis'.

Table 3.6, ANOVA Test for Q 8: (techniques which used to analyse CI)

Variable		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
SWOT analysis*	Between Groups	8.715	5	1.743	2.354	**.085**
	Within Groups	12.589	17	.741		
	Total	**21.304**	**22**			
STEP analysis**	Between Groups	20.720	5	4.144	3.977	**.014**
	Within Groups	17.714	17	1.042		
	Total	**38.435**	**22**			

*Significant at the 10% level.
**Significant at the 5% level.

This result suggests that all European managers would not perceive significantly different levels of the "techniques, which used to analyse CI", except two variables 'SWOT analysis' and 'STEP analysis' were significant difference at 0.10 level and 0.05 level (which is not very

high). These variables are the same to those found to be significant in the *t*-test. This result illustrates that some countries have a different level of CI knowledge and various techniques that they can use. In some cases the CI manager may not have the necessary knowledge to use certain techniques; and he / she may be restricted by the techniques he / she may know. Therefore, this could have affected their answer to this question.

Q10: To what extent does CI Contribute to marketing strategy formulation process:

The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the "to what extent does CI Contribute to marketing strategy formulation process". Inspection of the statistics of Levene's test for equality of variances in Table 3.7 revealed that the observed significance levels were greater than 0.01 for all variables.

As Table 3.7 indicates, the observed significance levels were less than 0.10 for the mean differences of the variable 'Implementation & Control'. The nonparametric test indicated consistent results.

This result suggests that UK managers would not perceive significantly different levels of the to what extent does CI Contribute to marketing strategy formulation process as compared with Other European managers, except one variable 'Implementation & Control' was significant difference at 0.10 level (which is not very high). On the other hand, the mean scores of the UK managers on the variable 'Implementation & Control' was higher than the mean scores of the Other European managers. Moreover, Inspection of the mean scores for 'UK' managers and 'Other European' managers indicates that both managers have the same opinion regarding to "To what extent does CI contribute to marketing strategy formulation process"; as the mean scores for both managers on the variables 'Setting marketing objectives' (3.00 = sometime), 'Strategic analysis' (4.00 = often), 'Strategic decision making' (4.00 = often), and 'Implementation and control' (3 = sometime) were nearly the same. Therefore, we can suggest that both managers believe that ***Sometimes*** CI contributes to the 'Setting marketing objectives'

and 'Implementation and Control of the marketing strategy'. However, both managers believe that ***Often*** CI contributes to 'strategic analysis' and 'Strategic decision making'.

Table 3.7, Independent samples test for Question 10; 'to what extent does CI Contribute to MSF process' between Group UK and Other European:

	< 1 = Never ……..…… ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Setting Marketing Objectives	3.29	3.25	**3.26**	**.75**	**.919**	**.883**
Strategic Analysis	4.14	3.81	**3.91**	**.79**	**.370**	**.381**
Strategic Decision Making	4.14	3.88	**3.96**	**.64**	**.397**	**.358**
Implementation and Control*	4.00	3.25	**3.48**	**.85**	**.064**	**.068**

* Using a *t*-test and a Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Implementation and Control', was significant at the 10% level.

In order to determine if the level of difference is significant with regard to what extent does CI Contribute to marketing strategy formulation process among all European managers, ANOVA test was carried out. Table 3.8 reports the statistics for testing level of significance for 'to what extent does CI Contribute to marketing strategy formulation process' among all European CI managers. Examination of the Table 3.8 revealed that the observed significance levels were greater than 0.01 for all the variables. Inspection of the ANOVA Table 3.8 also illustrates significant differences at the 0.10 level, in one variable, 'Strategic decision making'. Moreover, Table 3.8 also illustrates significant differences at the 0.05 level, in one variable, 'Strategic analysis'.

Table 3.8, ANOVA Test for Q 10: To what extent does CI Contribute to marketing strategy formulation process

Variable		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Strategic decision making*	Between Groups	3.724	5	.745	2.420	**.079**
	Within Groups	5.232	17	.308		
	Total	**8.957**	**22**			
Strategic analysis**	Between Groups	6.969	5	1.394	3.455	**.025**
	Within Groups	6.857	17	.403		
	Total	**13.826**	**22**			

* Significant at the 10% level.
**Significant at the 5% level.

This result suggests that all European managers would not perceive significantly different levels of the 'to what extent does CI Contribute to marketing strategy formulation process', except two variables 'Strategic decision making' and 'Strategic analysis' were significant difference at 0.10 level and 0.05 level (which is not very high). These variables are in complete contrast to the one found to be significant in the *t*-test. This result illustrates that some countries have a different opinions to what extent does CI Contribute to marketing strategy formulation process.

Q15: Is CI a central component of the marketing strategy formulation:

The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the 'Is CI a central component of the marketing strategy formulation'. The independent *t*-test was conducted to identify whether UK managers and Other European managers have different opinion to the 'Is CI a central component of the marketing strategy formulation'. The results of the *t*-test are provided in Table 3.9 (result from the nonparametric test are also included for cross-validation). Inspection of the statistics of Levene's test for equality of variances revealed significant differences were found at the 0.10 level between the two samples in the mean scores with respect to 'Is CI a central component of the marketing strategy formulation'. Therefore, hypothesis 1 (H1) was rejected.

Table 3.9 Independent samples test for Question 15; 'Is CI a central component of the marketing strategy formulation' between Group UK and Other European:

	< 1 = Never ……..…… ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Is CI a central component of the MSF*	3.86	3.25	**3.43**	**.73**	**.064** **.020**	**.060**

* Using a *t*-test and a Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Is CI a central component of the MSF', was significant at the 10% level.

In order to determine if the level of difference is significant with regard to "Is CI a central component of the marketing strategy formulation" among all European managers, ANOVA test was carried out. Table 3.10 reports the statistics for testing level of significance for "Is CI a central component of the marketing strategy formulation" among all European CI managers. Inspection of the ANOVA Table 3.10 also illustrates significant differences at the 0.10 level.

Table 3.10, ANOVA Test for Q 15: Is CI a central component of the marketing strategy formulation

Is CI is a central component of the MSF	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	3.420	5	.684	1.413	**.270**
Within Groups	8.232	17	.484		
Total	**11.652**	**22**			

There is no significant difference at the 0.10 or 0.05 or 0.01 level.

This result suggests that all European managers would not perceive significantly different levels of "Is CI a central component of the marketing strategy formulation". Therefore, all European managers have the same opinion regarding the contribution of the CI into marketing strategy formulation; as all CI European managers in chemicals industry believe to some extend that CI is a central component of the marketing strategy formulation.

4. Pharmaceuticals Industry

Q5: Sources are used for CI:

Table 4.1 reports the test statistics for testing level of significance for 'the CI sources used' between the UK and Other European CI managers. Examination of the statistics of Levene's test for variances in Table 4.1 revealed that significant differences were found at the 0.05 level between the two samples in the mean scores of one variable 'Books'. Moreover, significant differences were found at the 0.01 level between the two samples in the mean scores with respect to 'Government publications'. The nonparametric test indicated consistent results.

Inspection of Table 4.1 indicated that the mean scores of the UK managers on the variables 'Books' and 'Government publications' were higher than the mean scores of the Other European managers. The two groups mean scores on all other variables were not significantly different at the (0.10 level, 0.05 level, and 0.01 level), hence the hypothesis H2 was not rejected with regard to the other variables. This suggests that there is no significant difference between UK managers and Other European managers with regard to the sources they use for their CI activity, except two sources 'Books' and 'Government publications' were significant difference at 0.05 level and 0.01 level (which is not very high).

In order to determine if the level of difference is significant with regard to 'the CI sources used' among all European managers, ANOVA test was carried out. Table 4.2 reports the statistics for testing level of significance for 'the CI sources used' among all European CI managers. Examination of the Table 4.2 revealed that the observed significant differences were found at the 0.10 level in two variables, 'Government Publications' and 'Customers', among all European managers. Moreover, significant differences were found at the 0.05 level in one variable 'Professional associations'; also, significant differences were found at the 0.01 level in one variable 'Suppliers and / or distributors'.

Therefore, examining both tables for *t*-test and ANOVA we can state that one variable is common 'Government publications', although they have different levels of significance. However, when the *t*-test was examined a further variable 'Books' became significant yet was

not significant in the ANOVA test. Likewise, the ANOVA test produced three variables, 'Customers', 'Professional associations' and 'Suppliers and / or distributors', which were significant but remained insignificant in the *t*-test. This difference could be explained by the fact that different European countries have a different economy and different sources of information available to them. Therefore, the hypothesis H2 was not rejected with regard to the other variables.

Table 4.1 Independent samples test (Sources are used for CI) between Group UK and Other European

	< 1 = Never ……..…… ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Customers	3.00	2.74	**2.83**	**.85**	**.430**	**.324**
Suppliers / distributors	3.10	2.79	**2.90**	**.82**	**.340**	**.514**
Consultants, bankers, lawyers, etc.	2.80	3.05	**2.97**	**.68**	**.351**	**.446**
Social contacts	3.60	3.11	**3.28**	**.92**	**.222**	**.276**
Databases	3.70	4.21	**4.03**	**.87**	**.244**	**.273**
Debriefing of new staff	2.80	2.21	**2.41**	**.98**	**.192**	**.210**
Agencies	3.30	2.89	**3.03**	**.78**	**.188**	**.195**
Trade publications, catalogues, etc.	3.50	3.42	**3.45**	**.99**	**.842**	**.355**
Business periodicals	3.70	3.37	**3.48**	**.91**	**.361**	**.211**
Newspapers	3.70	3.21	**3.38**	**1.12**	**.269**	**.184**
Government publications***	4.00	2.74	**3.17**	**1.10**	**.002**	**.006**
Books**	2.90	2.00	**2.31**	**.93**	**.046**	**.023**
Trade shows conferences, etc.	3.90	4.00	**3.97**	**.87**	**.773**	**.744**
Academic journals	3.20	3.16	**3.17**	**.97**	**.914**	**.844**
Information services	3.30	3.74	**3.59**	**.73**	**.239**	**.222**
Professional associations	3.00	3.11	**3.07**	**.59**	**.658**	**.663**
Newsletters, memoranda	2.70	3.05	**2.93**	**1.03**	**.392**	**.380**
Internal reports	3.80	3.63	**3.69**	**.71**	**.575**	**.791**
Other	0.00	0.00	**0.00**	**0.00**	**0.00**	**0.00**

*** Using a *t*-test and a Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Government publications', was significant at the 1% level.

** Using a *t*-test and a Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Books', was significant at the 5% level.

Table 4.2, ANOVA Test for Q 5: 'the CI sources used' among all European managers

Variable		Sum of Squares	df	Mean Square	F	Sig.
Government Publications	Between Groups	12.938	6	2.156	2.238	**.078**
	Within Groups	21.200	22	.964		
	Total	**34.138**	**28**			
Customers	Between Groups	7.638	6	1.273	2.240	**.077**
	Within Groups	12.500	22	.568		
	Total	**20.138**	**28**			
Professional associations	Between Groups	4.062	6	.677	2.568	**.049**
	Within Groups	5.800	22	.264		
	Total	**9.862**	**28**			
Suppliers and / or distributors	Between Groups	10.740	6	1.790	4.953	**.002**
	Within Groups	7.950	22	.361		
	Total	**18.690**	**28**			

* Significant at the 10% level.
** Significant at the 5% level.
*** Significant at the 1% level.

Q7 Tools/systems that used to acquire, access, store and share CI

The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the "tools/systems which used to acquire, access, store and share CI". The independent *t*-test was conducted to identify whether 'UK' managers and 'Other European managers have different opinion to the "tools/systems which used to acquire, access, store and share CI". The results of the *t*-test are provided in Table 4.3 (result from the nonparametric test are also included for cross-validation). Inspection of the statistics of Levene's test for equality of variances revealed that the observed significance levels were greater than 0.01 for the mean differences of all the variables between the two groups, which are consistent with the nonparametric test results. However, significant differences were found at the 0.05 level between the two samples in the mean scores with respect to 'Presentation software'.

Table 4.3 Independent samples test (tools/systems which used to acquire, access, store and share CI) between Group UK and Other European:

	< 1 = Never ……..…… ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Databases	3.40	4.32	**4.00**	**1.13**	**.108**	**.180**
Secure intranet	3.90	3.84	**3.86**	**.88**	**.869**	**.468**
Presentation software**	2.30	3.32	**2.97**	**1.12**	**.017**	**.016**
Voice mail system	2.70	2.00	**2.24**	**.99**	**.147**	**.179**
Fax machines, Electronic mail services	3.00	2.47	**2.66**	**1.26**	**.343**	**.321**
Group decision support systems	2.70	2.58	**2.62**	**1.12**	**.829**	**.830**
Dedicated CI process system	2.70	3.21	**3.03**	**1.52**	**.401**	**.385**
Other	0.00	0.00	**0.00**	**0.00**	**0.00**	**0.00**

** Using a *t*-test and Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Presentation software', was significant at the 5% level.

This result suggests that UK managers would not perceive significantly different levels of the "tools/systems which used to acquire, access, store and share CI" as compared with Other European managers, except two variables 'Presentation software' was significant difference 0.05 level. On the other hand, the mean scores of the Other European managers on the variable 'Presentation software' were higher than the mean scores of the UK managers.

In order to determine if the level of difference is significant with regard to 'tools/systems which used to acquire, access, store and share CI' among all European managers, ANOVA test was carried out. Table 4.4 reports the statistics for testing level of significance for 'tools/systems which used to acquire, access, store and share CI' among all European CI managers. Examination of the Table 4.4 revealed that the observed significance levels were greater than 0.01 for all the variables. Inspection of the ANOVA Table 4.4 also illustrates significant differences at the 0.05 level, in two variables, 'Dedicated CI process system' and 'Presentation software'.

Table 4.4, ANOVA Test for Q 7: (tools/systems which used to acquire, access, store and share CI)

Dedicated CI process system**	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	27.566	6	4.594	2.703	**.040**
Within Groups	37.400	22	1.700		
Total	**64.966**	**28**			

Presentation software**	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	17.316	6	2.886	3.597	**.012**
Within Groups	17.650	22	.802		
Total	**34.966**	**28**			

* *Significant at the 05% level.

This result suggests that all European managers would not perceive significantly different levels of the tools/systems that used to acquire, access, store and share CI, except two variables 'Dedicated CI process system' and 'Presentation software' were significant difference at 0.05 level (which is not very high). This result illustrates that some countries have a different level of CI knowledge and various tools, systems that they can use. In some cases the CI manager may have the necessary knowledge to use certain tools and techniques but he / she may be restricted by the tools and systems provided by the company. Therefore, this could have affected their answer to this question. Again the sizes of the company will determine which tools or systems they use depending upon the environment in which they operate. For examples, small companies with limited resources will use different tools / systems than bigger companies.

Q8 Techniques, which used to analyse CI

In same way as the previous sub-section, the independent *t*-test was performed on SPSS to examine differences in the variables mean scores of group 'UK managers' and 'Other European managers' with regard to "techniques, which used to analyse CI". Table 4.5 provides the test statistics, and Levene's test for equality of variances and statistics with unequal variance corrections are included since the two samples were of unequal sizes (nonparametric test statistics are included for cross-validation). The statistics of Levene's test

for equality of variances in Table 4.5 revealed that the observed significance levels were greater than 0.01 for all the variables, which are consistent with the nonparametric test results. However, significant differences were found at the 0.10 level between the two samples in the mean scores with respect to 'Key success factors'. On the other hand, the mean scores of the UK managers on the variable 'Key success factors' was higher than the mean scores of the Other European managers.

This suggests that there is no significant difference between UK managers and Other European managers with regard to the "techniques, which used to analyse CI", except one technique 'Key success factors' was significant difference at 0.10 level (which is not very high level of significance). Therefore, the hypothesis H2 was not rejected with regard to the other variables.

Table 4.5 Independent samples test for Question 8; 'techniques which used to analyse CI' between Group UK and Other European:

	< 1 = Never ……..…….. ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
SWOT analysis	3.70	3.68	**3.69**	**.54**	**.942 .948**	**.935**
Key Success Factors*	3.70	3.26	**3.41**	**.63**	**.074 .053**	**.076**
Competitors profiling	4.10	4.11	**4.10**	**.82**	**.987 .990**	**.330**
Financial analysis	3.90	3.63	**3.72**	**.96**	**.484 .555**	**.452**
Win / lose analysis	2.30	2.84	**2.66**	**1.01**	**.174 .217**	**.102**
STEP analysis	3.00	2.89	**2.93**	**.80**	**.743 .721**	**.805**
War gaming / role playing	3.10	2.63	**2.79**	**1.35**	**.383 .305**	**.291**
Other	0.00	0.00	**0.00**	**0.00**	**0.00**	**0.00**

* Using a *t*-test and Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Key Success Factors', was significant at the 10% level.

In order to determine if the level of difference is significant with regard to "techniques, which used to analyse CI" among all European managers, ANOVA test was carried out. Table 4.6 reports the statistics for testing level of significance for "techniques, which used to analyse CI" among all European CI managers. Examination of the Table 4.6 revealed that the observed significant differences were found at the 0.01 level in one variable 'War gaming / role-playing' among all European managers. Moreover, Table 4.6 revealed that the observed significant differences were found at the 0.05 level in one variable 'Key success factors' among all European managers. Furthermore, significant differences were found at the 0.10 level in one variable 'STEP analysis' among all European managers. This result suggests that all European managers would not perceive significantly different levels of the "techniques, which used to analyse CI", except three variables, 'War gaming / role-playing', 'STEP analysis' and 'Key success factors' were significant difference at 0.01 level, 0.05 level and 0.10 level (which is not very high).

Table 4.6, ANOVA Test for Q 8: (techniques which used to analyse CI)

Variable		Sum of Squares	df	Mean Square	F	Sig.
Key success factors**	Between Groups	5.234	6	.872	3.309	**.018**
	Within Groups	5.800	22	.264		
	Total	**11.034**	**28**			
STEP analysis*	Between Groups	6.562	6	1.094	2.129	**.091**
	Within Groups	11.300	22	.514		
	Total	**17.862**	**28**			
War gaming /role playing***	Between Groups	28.359	6	4.726	4.642	**.003**
	Within Groups	22.400	22	1.018		
	Total	**50.759**	**28**			

*Significant at the 10% level.
**Significant at the 5% level.
***Significant at the 1% level.

This result illustrates that some countries have a different level of CI knowledge and various techniques that they can use. In some cases the CI manager may not have the necessary knowledge to use certain techniques; and he / she may be restricted by the techniques he / she may know. Therefore, this could have affected their answer to this question.

Q10: To what extent does CI Contribute to marketing strategy formulation process:

The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the "To what extent does CI contribute to marketing strategy formulation process". The independent *t*-test was conducted to identify whether 'UK' managers and 'Other European managers have different opinion to the level of contribution of the CI activity to marketing strategy formulation. The results of the *t*-test are provided in Table 4.7 (result from the nonparametric test are also included for cross-validation). Inspection of the statistics of Levene's test for equality of variances revealed that the observed significance levels were greater than 0.01 for the mean differences of all the variables between the two groups, which are consistent with the nonparametric test results. However, significant differences were found at the 0.05 level between the two samples in the mean scores with respect to 'Strategic decision making'. The nonparametric test indicated consistent results.

This result suggests that UK managers would not perceive significantly different levels of the "to what extent does CI contribute to marketing strategy formulation process" as compared with Other European managers, except one variables 'Strategic decision making' was significant difference 0.05 level (which is not very high). On the other hand, the mean scores of the UK managers on the variable 'Setting marketing objectives' was higher than the mean scores of the Other European managers. On the other hand, the mean scores of the UK managers on the variables were higher than the mean scores of the Other European managers.

Moreover, Inspection of the mean scores for 'UK' managers and 'Other European' managers indicates that both managers have the same opinion regarding to "To what extent does CI contribute to marketing strategy formulation process"; as the mean scores for both managers on the variables 'Strategic decision making'(4.00 = often), 'Strategic analysis' (4.00 = often), 'Strategic decision making' (4.00 = often), and 'Implementation and control' (3 = sometime) were nearly the same. Therefore, we can suggest that both managers believe that ***Sometimes*** CI contributes to 'Setting marketing objectives' and the 'Implementation and Control of the

marketing strategy'. However, both managers believe that ***Often*** CI contributes to 'strategic analysis' and 'Strategic decision making'.

Table 4.7, Independent samples test for Question 10; 'to what extent does CI Contribute to MSF process' between Group UK and Other European:

	< 1 = Never ……..…….. ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Setting Marketing Objectives	3.50	3.16	**3.28**	**.80**	**.280**	**.102**
Strategic Analysis	4.40	4.11	**4.21**	**.56**	**.182**	**.188**
Strategic Decision Making**	4.40	3.79	**4.00**	**.65**	**.014**	**.017**
Implementation and Control	3.00	2.84	**2.90**	**.86**	**.647**	**.657**

** Using a *t*-test and Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Strategic Decision Making', was significant at the 5% level.

Table 4.8, ANOVA Test for Q 10: To what extent does CI Contribute to marketing strategy formulation process

Variable		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Setting decision making* **	Between Groups	7.800	6	1.300	6.810	**.000**
	Within Groups	4.200	22	.191		
	Total	**12.000**	**28**			
Strategic analysis**	Between Groups	3.359	6	.560	2.281	**.073**
	Within Groups	5.400	22	.245		
	Total	**8.759**	**28**			

*** Significant at the 1% level.
** Significant at the 5% level.

In order to determine if the level of difference is significant with regard to "To what extent does CI contribute to marketing strategy formulation process" among all European managers, ANOVA test was carried out. Table 4.8 reports the statistics for testing level of significance for "To what extent does CI contribute to marketing strategy formulation process" among all European CI managers. Examination of the Table 4.8 revealed that the observed significant differences were found at the 0.10 level in a variable 'Strategic analysis', among all European managers. Moreover, significant differences were found at the 0.01 level in one variable 'Setting decision making'.

This result suggests that all European managers would not perceive significantly different levels of the 'to what extent does CI Contribute to marketing strategy formulation process', except two variables 'Strategic decision making' and 'Strategic analysis' were significant difference at 0.01 level and 0.10 level (which is not very high). This result illustrates that some countries have a different opinions to what extent does CI Contribute to marketing strategy formulation process.

Q15: Is CI a central component of the marketing strategy formulation:

In same way as the previous sub-section, the independent *t*-test was performed on SPSS to examine differences in the variables mean scores of group 'UK managers' and 'Other European managers' with regard to "Is CI a central component of the marketing strategy formulation". Table 4.9 provides the test statistics, and Levene's test for equality of variances and statistics with unequal variance corrections are included since the two samples were of unequal sizes (nonparametric test statistics are included for cross-validation). The statistics of Levene's test for equality of variances in Table 4.9 revealed that the observed significance levels were greater than 0.01 for all the variables.

This result suggests that UK managers would not perceive significantly different levels of the "Is CI a central component of the marketing strategy formulation" as compared with Other European managers. On the other hand, the mean scores of the Other European managers on the variable "Is CI a central component of the marketing strategy formulation" was higher than the mean scores of the UK managers.

Therefore, we can suggest that both managers believe that ***Often*** CI is a central component of the marketing strategy formulation.

Table 4.9 Independent samples test for Question 15; 'Is CI a central component of the marketing strategy formulation' between Group UK and Other European:

	< 1 = Never ....5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Is CI a central component of the MSF	3.60	3.63	**3.62**	**.62**	**.915**	**.979**

Using a *t*-test and Mann-Whitney Test, there is no difference between UK and Other European countries.

Table 4.10, ANOVA Test for Q 15: Is CI a central component of the marketing strategy formulation

Is CI is a central component of the MSF	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	1.628	6	.271	.649	**.691**
Within Groups	9.200	22	.418		
Total	**10.828**	**28**			

In order to determine if the level of difference is significant with regard to "Is CI a central component of the marketing strategy formulation" among all European managers, ANOVA test was carried out. Table 4.10 reports the statistics for testing level of significance for "Is CI a central component of the marketing strategy formulation" among all European CI managers. Inspection of the ANOVA Table 4.10 also illustrates that there is no significant differences for the variable "Is CI a central component of the marketing strategy formulation" among all European managers.

This result suggests that all European managers would not perceive significantly different levels of "Is CI a central component of the marketing strategy formulation". Therefore, all European managers have the same opinion regarding the contribution of the CI into marketing strategy formulation; as all CI managers in Pharmaceuticals industry believe that *Often* CI is a central component of the marketing strategy formulation.

5. Telecommunications Industry

Q5: Sources are used for CI:

The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the "Sources which are used for CI activities". The independent *t*-test was conducted to identify whether 'UK' managers and 'Other European managers have different opinion to the sources which are used for CI activities. The results of the *t*-test are provided in Table 5.1 (result from the nonparametric test are also included for cross-validation). Inspection of the statistics of Levene's test for equality of variances revealed that the observed significance levels were greater than 0.10 for the mean differences of most the variables between the two groups, which are consistent with the nonparametric test results. However, significant differences were found at the 0.05 level between the two samples in the mean scores of two variables, 'Customers' and 'Trade publications, catalogues'.

Moreover, significant differences were found at the 0.01 level between the two samples in the mean scores of two variables 'Newspapers' and 'Internal reports'. The nonparametric test indicated consistent results.

Inspection of Table 5.1 indicated that the mean scores of the UK managers on the variables 'Customers' and 'Internal reports' were higher than the mean scores of the Other European managers. On the other hand, the mean scores of the Other European managers on the variables 'Trade publications, catalogues', 'Newspapers', 'Customers', and 'Trade publications, catalogues' were higher than the mean scores of the UK managers. The two groups mean scores on all other variables were not significantly different at the (0.10 level, 0.05 level, and 0.01 level), hence the hypothesis H2 was not rejected with regard to the other variables.

Table 5.1 Independent samples test (Sources are used for CI) between Group UK and Other European

	< 1 = Never ……..…….. ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Customers**	4.15	3.25	**3.81**	**.93**	**.050**	**.039**
Suppliers / distributors	3.85	3.25	**3.62**	**.80**	**.103**	**.129**
Consultants, bankers, lawyers, etc.	2.62	2.88	**2.71**	**1.15**	**.627**	**.875**
Social contacts	2.46	3.25	**2.76**	**1.09**	**.112**	**.142**
Databases	3.54	3.50	**3.52**	**1.03**	**.943**	**.970**
Debriefing of new staff	3.08	2.50	**2.86**	**1.28**	**.327**	**.334**
Agencies	2.62	2.38	**2.52**	**.98**	**.587**	**.468**
Trade publications, catalogues, etc.**	3.15	4.00	**3.48**	**.98**	**.040**	**.039**
Business periodicals	3.08	3.63	**3.29**	**1.01**	**.235**	**.193**
Newspapers*	3.38	4.75	**3.90**	**1.14**	**.004**	**.008**
Government publications	3.23	3.75	**3.43**	**1.12**	**.369**	**.368**
Books	2.15	2.75	**2.38**	**1.07**	**.315**	**.528**
Trade shows conferences, etc.	4.23	3.63	**4.00**	**1.22**	**.239**	**.175**
Academic journals	2.69	3.25	**2.90**	**1.14**	**.286**	**.230**
Information services	3.85	3.63	**3.76**	**1.04**	**.649**	**.620**
Professional associations	2.85	3.25	**3.00**	**1.22**	**.429**	**.392**
Newsletters, memoranda	2.92	3.38	**3.10**	**1.14**	**.390**	**.410**
Internal reports*	4.46	3.00	**3.90**	**1.14**	**.002**	**.003**
Other	0.00	0.00	**0.00**	**0.00**	**0.00**	**0.00**

** Using a *t*-test and Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Customers' and 'Trade publications, catalogues, etc.', were significant at the 5% level.
* Using a *t*-test and Mann-Whitney Test, the difference between UK and Other European countries, with respect to 'Newspapers' and 'Internal reports', was significant at the 1% level.

In order to determine if the level of difference is significant with regard to 'the CI sources used' among all European managers, ANOVA test was carried out. Table 4.2 reports the statistics for testing level of significance for 'the CI sources used' among all European CI managers. Examination of the Table 5.2 revealed that the observed significant differences were found at the 0.10 level in four variables, 'Academic journals', 'Government Publications', 'Customers' and 'Newspapers' among all European managers. Moreover, significant differences were found at the 0.05 level in two variables 'Databases' and 'Internal reports' among all European managers. Also, significant differences were found at the 0.01 level in one variable 'Books'. Therefore, examining both tables for *t*-test and ANOVA we can state that tree variables are common 'Customers', 'Internal reports' and 'Newspapers',

although they have different levels of significance. However, when the *t*-test was examined a further variable 'Trade publications, catalogues, etc.' became significant yet was not significant in the ANOVA test. Likewise, the ANOVA test produced four variables, 'Academic journals', 'Database', 'Books' and 'Government Publications', which were significant but remained insignificant in the *t*-test. This difference could be explained by the fact that different European countries have a different economy and different sources of information available to them. Therefore, the hypothesis H2 was not rejected with regard to the other variables.

Table 5.2, ANOVA Test for Q 5: 'the CI sources used' among all European managers

Variable		Sum of Squares	df	Mean Square	F	Sig.
Academic journals*	Between Groups	10.540	4	2.635	2.761	**.064**
	Within Groups	15.269	16	.954		
	Total	**25.810**	**20**			
Books***	Between Groups	14.093	4	3.523	6.363	**.003**
	Within Groups	8.859	16	.554		
	Total	**22.952**	**20**			
Customers*	Between Groups	6.379	4	1.595	2.350	**.098**
	Within Groups	10.859	16	.679		
	Total	**17.23**	**20**			
Databases**	Between Groups	11.341	4	2.835	4.583	**.012**
	Within Groups	9.897	16	.619		
	Total	**21.238**	**20**			
Government publications*	Between Groups	9.668	4	2.417	2.499	**.084**
	Within Groups	15.474	16	.967		
	Total	**25.143**	**20**			
Internal reports**	Between Groups	13.912	4	3.478	4.677	**.011**
	Within Groups	11.897	16	.744		
	Total	**25.810**	**20**			
Newspapers*	Between Groups	10.733	4	2.683	2.847	**.059**
	Within Groups	15.077	16	.942		
	Total	**25.810**	**20**			

* Significant at the 10% level.
** Significant at the 5% level.
***Significant at the 1% level.

Q7 Tools/systems that used to acquire, access, store and share CI

The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the "tools/systems which used to acquire, access, store and share CI". The independent *t*-test was conducted to identify whether 'UK' managers and 'Other European managers have different opinion to the "tools/systems which used to acquire, access, store and share CI". The results of the *t*-test are provided in Table 5.3 (result from the nonparametric test are also included for cross-validation). Inspection of the statistics of Levene's test for equality of variances revealed that the observed significance levels were greater than 0.01 for the mean differences of all the variables between the two groups, which are consistent with the nonparametric test results.

Table 5.3 Independent samples test (tools/systems which used to acquire, access, store and share CI) between Group UK and Other European:

	< 1 = Never ……..…… ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Databases	3.85	4.13	**3.95**	**.86**	**.442**	**.442**
Secure intranet	4.62	4.25	**4.48**	**.68**	**.241**	**.189**
Presentation software	3.62	3.25	**3.48**	**1.33**	**.533**	**.403**
Voice mail system	2.85	2.50	**2.71**	**.85**	**.376**	**.150**
Fax machines, Electronic mail services	3.69	3.75	**3.71**	**1.06**	**.907**	**.910**
Group decision support systems	2.31	2.38	**2.33**	**1.06**	**.905**	**.940**
Dedicated CI process system	2.92	3.13	**3.00**	**1.58**	**.784**	**.738**
Other	0.00	0.00	**0.00**	**0.00**	**0.00**	**0.00**

Using a *t*-test and Mann-Whitney Test, there is no difference between UK and Other European countries.

This result suggests that UK managers would not perceive significantly different levels of the "tools/systems which used to acquire, access, store and share CI" as compared with Other European managers. In addition, the mean scores of the Other European managers on the variables 'Databases', 'Fax machines, E-mails', Group decision support systems' and 'Dedicated CI process systems' were higher than the mean scores of the UK managers. On the

other hand, the mean scores of the UK managers on the variables 'Secure intranet', 'Presentation software' and 'Voice mail systems' were higher than the mean scores of the Other European managers.

In order to determine if the level of difference is significant with regard to 'tools/systems which used to acquire, access, store and share CI' among all European managers, ANOVA test was carried out. The output reports the statistics for testing level of significance for 'tools/systems which used to acquire, access, store and share CI' among all European CI managers. Examination of the output revealed that the observed significance levels were greater than 0.01 for all the variables.

This result suggests that all European managers would not perceive significantly different levels of the tools/systems that used to acquire, access, store and share CI. This result illustrates that some countries have a different level of CI knowledge and various tools, systems that they can use. In some cases the CI manager may have the necessary knowledge to use certain tools and techniques but he / she may be restricted by the tools and systems provided by the company. Again the sizes of the company will determine which tools or systems they use depending upon the environment in which they operate. For examples, small companies with limited resources will use different tools / systems than bigger companies.

Q8 Techniques, which used to analyse CI

The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the "Techniques, which used to analyse CI". Inspection of the statistics of Levene's test for equality of variances in Table 5.4 revealed that the observed significance levels were greater than 0.01 for all variables.

As Table 5.4 indicates, the observed that there is no significance levels of difference for the all variable. The nonparametric test indicated consistent results. On the other hand, the mean scores of the UK managers on all variables were higher than the mean scores of the Other European managers, except one variable 'Win / lose analysis'. Therefore, the two groups mean

scores on all other variables were not significantly different at the (0.10 level, 0.05 level, and 0.01 level), hence the hypothesis H2 was not rejected with regard to this question.

This result suggests that UK managers would not perceive significantly different levels of the techniques, which used to analyse CI as compared with Other European managers.

Table 5.4 Independent samples test for Question 8; 'techniques which used to analyse CI' between Group UK and Other European:

	< 1 = Never ……..…….. ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
SWOT analysis	4.46	4.00	**4.29**	**.78**	**.197**	**.157**
Key Success Factors	4.31	3.75	**4.10**	**1.09**	**.330**	**.371**
Competitors profiling	4.62	4.25	**4.48**	**.60**	**.228**	**.218**
Financial analysis	4.23	3.50	**3.95**	**1.02**	**.157**	**.149**
Win / lose analysis	3.08	2.63	**2.90**	**1.30**	**.453**	**.624**
STEP analysis	2.85	2.88	**2.86**	**1.28**	**.958**	**.790**
War gaming / role playing	3.08	2.13	**2.71**	**1.38**	**.129**	**.185**
Other	0.00	0.00	**0.00**	**0.00**	**0.00**	**0.00**

Using a *t*-test and Mann-Whitney Test, there is no difference between UK and Other European countries.

In order to determine if the level of difference is significant with regard to "techniques, which used to analyse CI" among all European managers, ANOVA test was carried out. Table 5.5 reports the statistics for testing level of significance for "techniques, which used to analyse CI" among all European CI managers. Examination of the Table 5.5 revealed that the observed significant differences were found at the 0.10 level in one variable 'Key success factors' among all European managers.

Moreover, significant differences were found at the 0.05 level in one variable 'Financial analysis' among all European managers. This result suggests that all European managers would not perceive significantly different levels of the "techniques, which used to analyse CI", except two variables, 'Key success factors' and 'Financial analysis' were significant difference at 0.10 level and 0.05 level (which is not very high).

Table 5.5, ANOVA Test for Q 8: (techniques which used to analyse CI)

Variable		Sum of Squares	df	Mean Square	F	Sig.
Financial analysis*	Between Groups	9.978	4	2.495	3.637	**.027**
	Within Groups	10.974	16	.686		
	Total	**20.952**	**20**			
Key success factors**	Between Groups	9.874	4	2.468	2.834	**.059**
	Within Groups	13.936	16	.871		
	Total	**23.810**	**20**			

*Significant at the 10% level.
**Significant at the 5% level.

As the ANOVA test examines the significant differences among all European managers this could explain why the 'Key success factors' and 'Financial analysis' variables appeared in the ANOVA table and not in the *t*-test table. This difference could be explained by the fact that different CI managers have a different level of knowledge, education and experience regarding CI technique.

Q10: To what extent does CI Contribute to marketing strategy formulation process:

The independent *t*-test was performed on SPSS with the variables mean scores of 'group UK' and group 'Other European' managers, with regard to the "to what extent does CI Contribute to marketing strategy formulation process". Inspection of the statistics of Levene's test for equality of variances in Table 5.6 revealed that the observed significance levels were greater than 0.01 for all variables.

Inspection of the statistics of Levene's test for equality of variances revealed that the observed significance levels were not significant for the mean differences of all the variables between the two groups, which are consistent with the nonparametric test results.

This result suggests that UK managers would not perceive significantly different levels of the to what extent does CI Contribute to marketing strategy formulation process as compared with Other European managers. On the other hand, the mean scores of the UK managers on the

variable 'Implementation & Control' was higher than the mean scores of the Other European managers. Moreover, Inspection of the mean scores for 'UK' managers and 'Other European' managers indicates that both managers have the same opinion regarding to "To what extent does CI contribute to marketing strategy formulation process"; as the mean scores for both managers on the variables 'Setting marketing objectives' (3.00 = sometime), 'Strategic analysis' (4.00 = often), 'Strategic decision making' (4.00 = often), and 'Implementation and control' (3 = sometime) were nearly the same. Therefore, we can suggest that both managers believe that ***Sometimes*** CI contributes to the 'Setting marketing objectives' and 'Implementation and Control of the marketing strategy'. However, both managers believe that ***Often*** CI contributes to 'strategic analysis' and 'Strategic decision making'.

Table 5.6, Independent samples test for Question 10; 'to what extent does CI Contribute to MSF process' between Group UK and Other European:

	< 1 = Never ……..…….. ……5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Setting Marketing Objectives	3.23	3.13	**3.19**	**.87**	**.790**	**.848**
Strategic Analysis	4.15	4.13	**4.14**	**.85**	**.936**	**.697**
Strategic Decision Making	4.00	4.00	**4.00**	**.84**	**1.000**	**.755**
Implementation and Control	2.92	3.25	**3.05**	**1.12**	**.529**	**.406**

Using a *t*-test and Mann-Whitney Test, there is no difference between UK and Other European countries.

In order to determine if the level of difference is significant with regard to what extent does CI Contribute to marketing strategy formulation process among all European managers, ANOVA test was carried out. Examination of the output revealed that the observed significance levels were greater than 0.01 for all the variables.

This result suggests that all European managers would not perceive significantly different levels of the 'to what extent does CI Contribute to marketing strategy formulation process'. This result illustrates that some countries have a different opinions to what extent does CI Contribute to marketing strategy formulation process.

Q15: Is CI a central component of the marketing strategy formulation:

In same way as the previous sub-section, the independent *t*-test was performed on SPSS to examine differences in the variables mean scores of group 'UK managers' and 'Other European managers' with regard to "Is CI a central component of the marketing strategy formulation". Table 5.7 provides the test statistics, and Levene's test for equality of variances and statistics with unequal variance corrections are included since the two samples were of unequal sizes (nonparametric test statistics are included for cross-validation). The statistics of Levene's test for equality of variances in Table 5.7 revealed that the observed significance levels were greater than 0.01 for all the variables.

Examination of Table 5.7 reveals that the observed significance levels were less than 0.01 for the mean differences of all the variables between the two groups, which are consistent with the nonparametric test results.

This result suggests that UK managers would not perceive significantly different levels of the "Is CI a central component of the marketing strategy formulation" as compared with Other European managers. On the other hand, the mean scores of the UK managers on the variable "Is CI a central component of the marketing strategy formulation" was higher than the mean scores of the Other European managers. Therefore, we can suggest that both managers believe that ***Often*** CI is a central component of the marketing strategy formulation.

Table 5.7, ANOVA Test for Q 15: Is CI a central component of the marketing strategy formulation

	< 1 = Never ……..…….. …….5 = Very often >					
VARIABLES	**UK**	**Other European**	**Mean all**	**STD. Deviation all**	***t*-test Sig. (2-tailed)**	**Mann-Whitney Test Sig. 2-tailed**
Is CI a central component of the MSF	3.62	3.50	**3.75**	**.98**	**.766**	**.762**

Using a *t*-test and Mann-Whitney Test, there is no difference between UK and Other European countries.

In order to determine if the level of difference is significant with regard to "Is CI a central component of the marketing strategy formulation" among all European managers, ANOVA test was carried out. Inspection of the ANOVA output also illustrates that there is no significant differences at 0.01 levels for the variable "Is CI a central component of the marketing strategy formulation" among all European managers.

This result suggests that all European managers would not perceive significantly different levels of "Is CI a central component of the marketing strategy formulation". Therefore, all European managers have the same opinion regarding the contribution of the CI into marketing strategy formulation; as all CI managers in Telecommunications industry believe that *Often* CI is a central component of the marketing strategy formulation.

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